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Marine Gammaridean Amphipoda (Crustacea) of the Family Ampithoidae from Korea

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韓國 海産 Ampithoidae 科 옆새우類(甲殼綱 ; 端脚目)

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摘 要

1973년 7월부터 1987년 10월까지 한국연안의 32개 지역에서 채집되어 서울대학교 자연대 동물학과에 보관되어 있던 옆새우류의 표본중에서 Ampithoidae에 속하는 것들을 동정한 결과 3속 12종이 밝혀졌다. 이 중에서 5종은 신종이므로 각각 *Ampithoe brevipalma, Ampithoe koreana, Ampithoe youngsanensis, Peramphithoe baegryeongensis, Peramphithoe namhaensis*라고 명명하고 기재하였다. *Ampithoe valida*의 동종이명으로 처리되던 *Ampithoe shimizuensis*를 *Ampithoe valida*와 구별하여 새로운 아종인 *Ampithoe valida shimizuensis*로 명명하였다. 이외에 4종은 한국 미기록종 이었다.

Key words: Amphipoda, Taxonomy, Ampithoidae, Korea

INTRODUCTION

Kim and Kim (1987) reported *Ampithoe lacertosa* Bate, 1858 and *Ampithoe valida* Smith, 1873 from Cheju Island. Therefore, only 2 species of ampithoids have been recorded from Korean waters.

This study is based on the materials collected during the period from July 1973 to October 1987 in 32 localities (Fig. 1), and deposited in the Department of Zoology, Seoul National University. Twelve species in three genera were identified and classified. There are five new species — *Ampithoe brevipalma, Ampithoe koreana, Ampithoe youngsanensis, Peramphithoe baegryeongensis, Peramphithoe namhaensis*

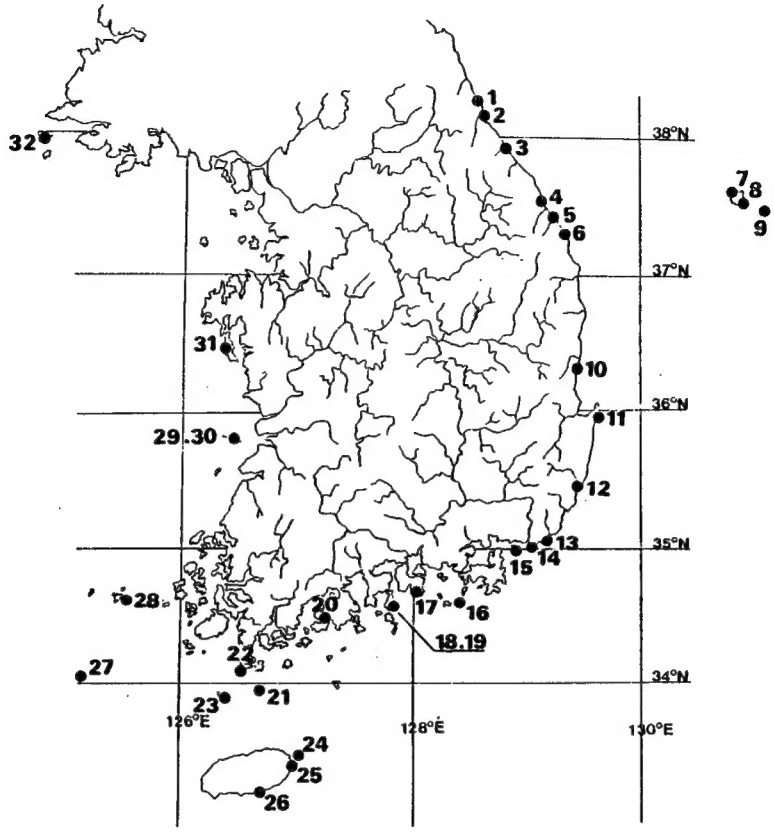

Fig. 1. A map showing the localities where the material was collected.
1, Ayajin (我也津); 2, Naksan (洛山); 3. Chumunjin (注文津); 4, Hujin (後津); 5, Changho (莊湖); 6, Imwŏn (臨院); 7, Ch'ŏnbu, Ullŭngdo I. (鬱陵島 天府); 8, Sadong, Ullŭngdo I. (鬱陵島 沙洞); 9, Tokto I. (獨島); 10, Kanggu (江口); 11, Kuryongp'o (九龍浦); 12, Pangŏjin (方魚津); 16, Haeundae (海雲臺); 14, Tadaep'o (多大浦); 15, Kodŏkto I. (加德島); 16, Kukto I. (國島); 17, Sangju-ri, Namhaedo I. (南海島 尙州里); 18, Pangchukp'o, Tolsan I. (突山島 放竹浦); 19, Imp'o, Tolsan I. (突山島 荏浦); 20, Noktong (鹿洞); 21, Yŏsŏdo I. (麗瑞島); 22, Pogildo I. (浦吉島); 23, Upper Ch'ujado I. (上楸子島); 24, Udo I. (牛島); 25, Sŏngsanp'o (城山浦); 26, Sŏgwip'o (西歸浦); 27, Kagŏdo I. (可居島); 28, Yŏngsando I. (永山島); 29, Pangchukto I. (防築島); 30, Sŏnyudo I. (仙遊島); 31, Pangp'o, Anmyŏndo I. (安眠島 傍浦); 32, Paengnyŏngdo I. (白翎島).

and 4 unreported species from Korea — *Ampithoe ramondi* Audouin, 1826, *Peramphithoe tea* (Barnard, 1965), *Peramphithoe orientalis* (Dana, 1853) and *Sunamphithoe plumosa* Stephensen, 1944. *Ampithoe shimizuensis* Stephensen, 1944 is newly ranked as a subspecies — *Ampithoe valida shimizuensis*. All the types and other specimens examined are deposited in the Department of Zoology, Seoul National University.

Figures were prepared with drawing tube and camera lucida. Body length was measured from the apex of the rostrum along the dorsal margin to the posterior limit of urosomite 3.

SYSTEMATIC ACCOUNT AND DESCRIPTIONS

Superclass Crustacea Pennant, 1777
Class Malacostraca Latreille, 1806
Subclass Eumalacostraca Grobben, 1892
Superorder Peracarida Calman, 1904
Order Amphipoda Latreille, 1816
Suborder Gammaridea Latreille, 1803
Superfamily Corophioidea Dana, 1849 (new status J. L. Barnard, 1973)
Family Ampithoidae Stebbing, 1899
Genus *Ampithoe* Leach, 1814

*1. **Ampithoe lacertosa*** Bate, 1858 (Fig. 2, A)

Amphithoë lacertosa Bate, 1858 (p. 362); 1862 (pp. 236-237, pl. 41, fig. 5).

Amphithoe lacertosa: Gurjanova, 1951 (pp. 895, 897, fig. 622).

Ampithoe lacertosa: Stebbing, 1906 (pp. 633-634); J. L. Barnard, 1954 (pp. 31-33, pls. 29-30); 1965 (pp. 9-12, figs. 4-5); Nagata, 1960 (pp. 175-176, pl. 16, figs. 95-96); Conlan and Bousfield, 1982 (pp. 47-49, fig. 2); Kim and Kim, 1987 (pp. 3-4, fig. 2).

Ampithoë macrurus Stephensen, 1944 (pp. 80-83, figs. 30-31).

Dexamine scitulus Harford, 1877 (p. 116).

Material examined: 2♂♂, 2♀♀, Naksan, Sep. 30, 1875 (H.S. Kim); 1♂, 3♀♀, Haeundae, Jul. 27, 1976 (K.S. Lee); 1♂, 2♀♀, Tokto I., Aug. 27, 1976 (H.S. Kim & B.L. Choe); 1♂, Chumunjin, Sep. 30, 1976 (K.S. Lee); 2♂♂, 3♀♀, Kadŏkto I., May 23, 1978 (H.S. Kim); 1♂, 3♀♀, Noktong, Jun. 18, 1980 (D.H. Kwon); 2♂♂, 5♀♀, Kuryongp'o, Aug. 10, 1982 (H.S. Kim); 41 individuals, Kuryongp'o, Aug. 12, 1982 (H.S. Kim); 47 individuals, Kanggu, Aug. 13, 1982 (H.S. Kim); 1♂, 7♀♀, Changho, Aug. 16, 1982 (H.S. Kim); 1♂, 4♀♀, Yŏsŏdo I., Aug. 20, 1982 (H.S. Kim); 1♂, Pogildo I., Aug. 21, 1982 (H.S. Kim); 1♂, Pangp'o, Oct. 23, 1983 (B.L. Choe); 1♂, 1♀, Pangp'o, Apr. 4, 1984 (C.Y. Chang); 2♂♂, 4♀♀, Imp'o, May 7, 1985 (C.B. Kim); 10 individuals, Ch'ŏnbu, Aug. 7, 1985 (D.H. Kwon); 1♂, Sŏnyudo I., May 7, 1986 (M.O. Song); 2♂♂ 7♀♀, Paengnyŏngdo I., Jul. 26, 1987 (H.S. Kim & B.L. Choe); 7♀♀, Kagŏdo I., Aug. 26, 1987 (C.B. Kim).

Distribution: Only Pacific Ocean — Korea, Alaska, British Columbia, Washington, Oregon, California, Japan.

*2. **Ampithoe valida*** Smith, 1873 (Fig, 2, B)

Amphithoë valida: Paulmier, 1905 (pp. 164-165, fig. 34).

Ampithoe valida: Alderman, 1936 (p. 68); J. L. Barnard, 1954 (pp. 34-35, p. 31); 1965 (pp. 34-36, fig. 22-23); Nagata, 1960 (p. 176, pl. 16, figs. 97-98); Bousfield, 1973 (pp. 180-181, pl. LV, fig. 1); Conlan and Bousfield, 1982 (pp. 49-50, fig. 3); Kim and Kim, 1987 (pp. 4-5, fig. 3).

Material examined: 1♂, Kuryongp'o, Aug. 10, 1982 (H.S. Kim); 21 individuals, Tadaep'o, Jan. 21, 1985 (H.S. Kim).

Distribution: Pacific Ocean — Korea, British Columbia, Washington, Oregon, California, Japan; Atlantic Ocean — Long Island, New Jersey, New England.

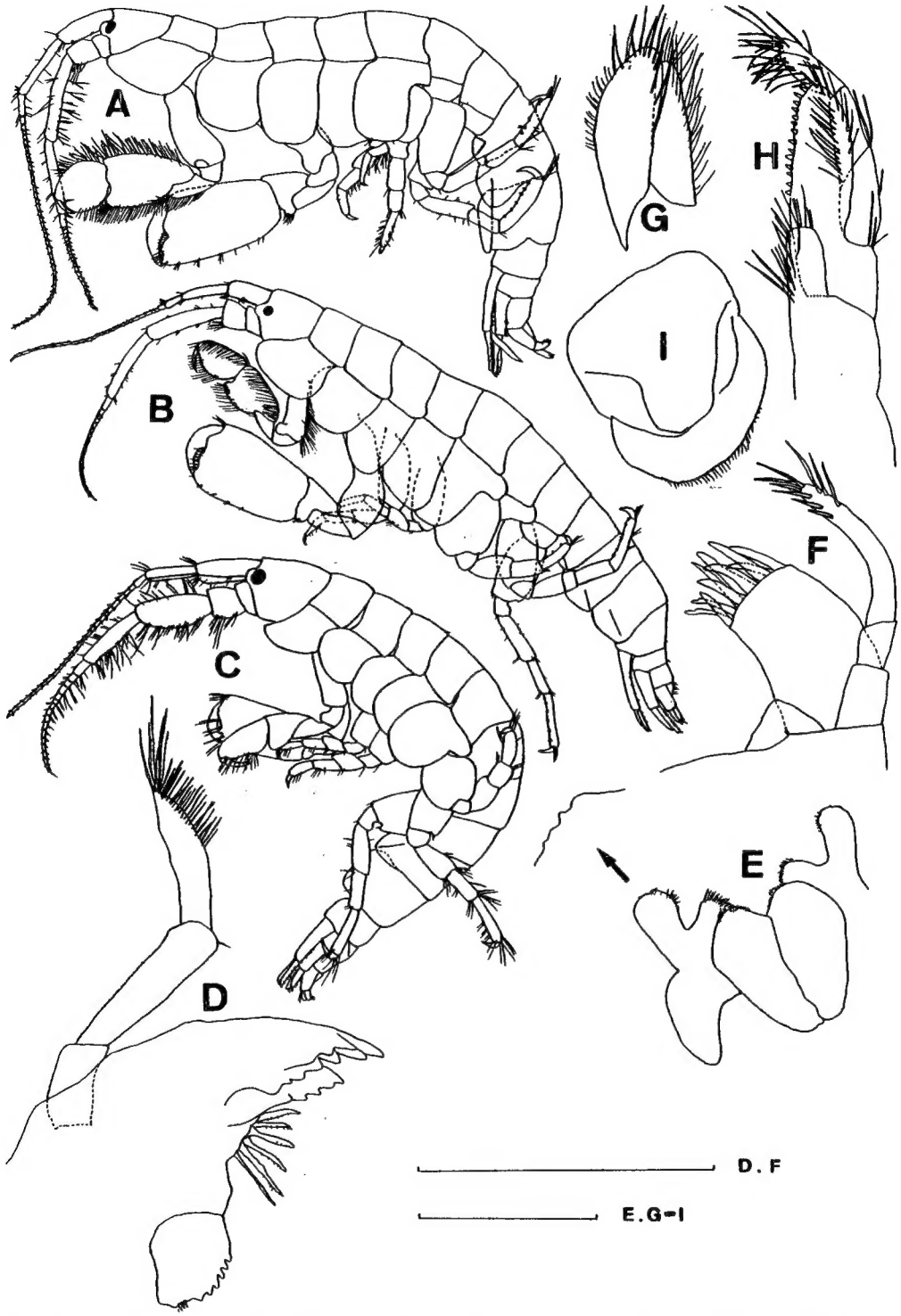

Fig. 2. *Ampithoe lacertosa* Bate, 1858, male, 20mm: A, lateral view. *Ampithoe valida* Smith, 1873, male, 18.5mm: B, lateral view. *Ampithoe valida shimizuensis* Stephensen, 1944, new status, male, 11mm: C, lateral view; D,mandible;E, lower lip; F, maxilla 1; G, maxilla 2; H, maxilliped; I, upper lip. Scale bars equal 0.5mm.

3. *Ampithoe valida shimizuensis* Stephensen, 1944, new status (Fig. 2, C-I; Fig. 3)

Amphithoë schmizuensis Stephensen, 1944, pp. 77-80, figs. 28-29

Material examined: 2♂♂, Imwŏn, Jul. 20, 1985 (D.H. Kwon); 3♂♂, Chumunjin, Sep. 30, 1976 (K.S. Lee); 1♀, Pangŏjin, Jul. 25, 1987 (M.K. Shin); 1♂, Sadong, Oct. 1, 1987 (C.B. Kim). All specimens were collected among algae in tide pools.

Description of male (body length: 11 mm): Head (Fig. 2, C) shorter than first 2 pereonal segments together, lateral lobes subquadrate in outline. Eye black in alcohol and oblong in outline. Antenna 1 slightly shorter than antenna 2, about 1/2 times as long as body length, peduncular segment 1 slightly longer than peduncular segment 2, with 1 small spine on the disteroventral margin, ventral margin of peduncular segments 1,2 concave, flagellum about 1·1/2 times as long as peduncle, composed of about 25 segments. Antenna 2 stronger than antenna 1, peduncular segment 4 expanded, peduncular segments 4, 5 equal in length; flagellum as long as peduncular segments 4, 5 combined, composed of about 17 segments. Segment 2 of mandibular palp(Fig.2, D) longer than segment 3, with a seta on the distal corner, segment 3 obliquely truncate, with setae on the apical margin; primary plate with 8 teeth, accessory plate with 5 teeth, spine row with 6 spines. Apical lobules of lower lip (Fig. 2, E) well separated and outer apical lobules robust, apex blunt and with several minute tubercles, and apical lobules longer than medial lobules. Inner plate of maxilla 1 (Fig. 2, F) lacking setae, outer plate with 10 spines on the apex, palp relatively slender, with 6 marginal spines and 3 setae. Inner plate of maxilla 2 (Fig. 2, G) narrower and shorter than outer plate, apex of outer plate truncate. Outer plate of maxilliped (Fig. 2, H) armed with 15-17 smooth spines, segment 1 of palp longer than segment 3, segment 1 with setae. Gnathopod 1 (Fig. 3, A) coxa produced anteriorly, no setae on the ventral margin, segments 2, 3 produced anteriorly into rounded lobes, segment 5 shorter than segment 6, posterior margin rounded and not produced, segment 6 with oblique palm, palm slightly concave, defined by 1 spine, segment 7 overlapping the palm. Segments 2, 3 of gnathopod 2 (Fig. 3, B) produced anteriorly into rounded lobes, posterior margin of segment 5 produced into sharp lobe, segment 6 large and strong, anterior and posterior margin of segment 6 parallel, palm transverse and sinuous, with a quadrate middle hump, segment 7 fitting the palm. Pereopods 1-2 (Fig. 3, C) subequal in length, segment 2 and 4 not strongly expanded, segment 5 longer than segments 4 and 6. Segment 2 of pereopod 3 (Fig. 3, D) as long as broad, anterior margin armed with 3 spines, segment 6 with 6 spines on the posterior margin. Pereopod 4 (Fig. 3, E) slightly shorter than pereopod 5, anterior margin of segment 2 armed with 2 spines, posterodistal margin concave and without spinule, anterior margin of segment 6 with 6 spines. Segment 2 of pereopod 5 (Fig. 3, F) with 4 spines on the anterior margin, posterodistal margin concave and with 1 spinule, anterior margin of segment 6 with 6 spines. Lower posterior corner of pleonal epimera 1-3 (Fig. 3, G) rounded, pleonal epimera 1-3 with lateral ridges and ventral margins rounded, posterior margin of pleonal epimeron 3 not expanded, relatively straight. Rami of uropod 1 (Fig. 3, H) equal in length, outer ramus with 5 spines on the outer margin, inner ramus with 3 spines on the inner margin; outer margin of peduncle with 5 spines, inner margin with 4 spines, outer ventral margin lined with setae. Outer ramus of uropod 2 (Fig. 3, I) shorter and broader than inner ramus, with 3 spines, inner ramus with 2 spines on the inner margin, peduncle with 2 spines on the both lateral sides, with ventral setae. Peduncle of uropod 3 (Fig. 3, J) about 2 times as long as rami, inner ramus with an apical spine, 3 subterminal spines and 1 lateral spine, outer ramus with only 2 recurved spines; peduncle with 5 dorsodistal marginal spines, 1 lateral spine and dorsal setae. Telson (Fig. 3, K) broadly triangular, as long as broad, with 2 dorsal setae and 4 lateral setae on both

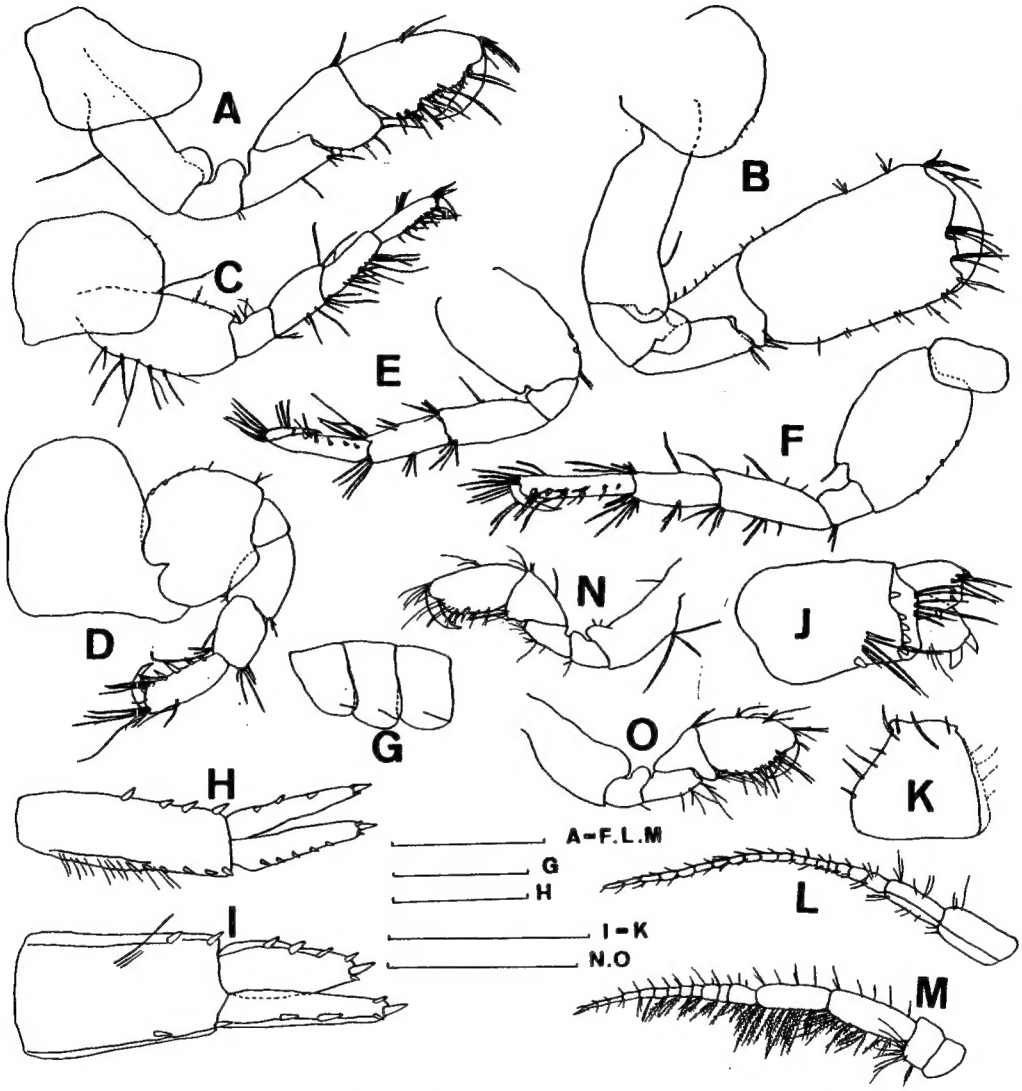

Fig. 3. *Ampithoe valida shimizuensis* Stenphensen, 1944, new status, male, 11mm: A-B, gnathopods 1,2; C-F, pereopods 1,3,4,5; G, pleonal epimera 1-3; H-J, uropods 1-3; K, telson; female, 5.2mm: L-M, antennae 1,2; N-O, gnathopods 1,2. Scale bars equal 1mm(A-F, L-O); 0.5mm(H-K); 2mm(G).

sides.

Description of female (body length: 5.2mm): Last 2 peduncular segments and first 6 flagellar segments of antenna 2 (Fig. 3, M) densely lined with plumose setae. Gnathopod 1 (Fig. 3, N) similar to male gnathopod 1 except more convex palm. Gnathopod 2 (Fig. 3, O) segments 2-5 similar to those of male gnathopod 2, segments 6-7 similar to those of female gnathopod 1.

Remarks: Barnard (1965) and Conlan and Bousfield (1982) synonymized *Ampithoe shimizuensis* Stephensen, 1944 with *A. valida* Smith, 1873. But, as Barnard (1965) indicated, *A. shimizuensis* appears to be distint in subspecific rank from *A. valida* by following points: 1. The segment 4 of male antenna 2 is more expanded. 2. Female antenna 2 is densely lined with plumose setae. 3. The segment 5 of male gnathopod 1 is shorter than segment 6. 4. The posterior lobe of segment 5 of male

gnathopod 1 is not produced distally. 5. The segment 6 of female gnathopod 1 is more slender. 6. The apical lobules of lower lip are well separated.

From Nagata (1960)'s figures of female gnathopods 1 and 2, his female specimen belong to *A. valida.*

Stephensen's description and figures is identical with the male and female of the material examined by the authors. In our materials, *A. valida shimizuensis* and *A. valida* can readily be distinguished by characters mentioned above without any confusion.

Distribution: Korea, Japan.

***4. Ampithoe brevipalma*, n. sp.** (Fig. 4)

Material examined: Holotype — 1♂, Pangchukp'o (SAH 00001) (body length: 12mm), Jul. 6, 1977 (D.H. Kwon); Paratypes — 1♂ (SAP00001), collected with holotype; 1♂ (SAP00002), Kuryongp'o, Aug. 11, 1982 (H.S. Kim); 1♂ (SAP00003), Imwŏn, Jul. 20, 1985 (D.H. Kwon). All type specimens were collected among algae in tide pools.

Description of holotype male: Heae (Fig. 4, A) shorter than first 2 pereonal segments together, lateral lobes subquadrate in outline. Outer part of eye black and inner part clear in alcohol and oblong in outline. Antenna 1 longer than antenna 2, about 1/2 times as long as body length, peduncular segment 1 slightly longer than peduncular segment 2, with 1 disteroventral spine and 1 ventral spine in the innder side, ventral margin of peduncular segments 1, 2 concave, flagellum much longer than that of antenna 2, composed of 38 segments. Segment 3 of antenna 2 with 1 disteroventral spine, peduncular segments 4, 5 equal in length, flagellum as long as peduncular segments 4, 5 combined, first half of flagellum densely setose, flagellum composed of 22 segments. Segment 2 of mandibular palp (Fig. 4, B) slightly shorter than segment 3, with 1 seta on the distal corner, segment 3 evenly rounded, with setae on the apical margin; primary plate with 6 teeth, accessory plate with 5 teeth, spine row with 6 spines. Apical lobules of lower lip (Fig. 4, C) well separated, longer than medial lobules and outer apical lobules slender and with nipples on the apex. Inner plate of maxilla 1 (Fig. 4, D) with 1 lateral seta, outer plate with 6 spines on the apex; palp relatively stout, with 7 marginal spines and several setae. Inner plate of maxilla 2 (Fig. 4, E) narrower than outer plate, apex of outer plate truncate. Outer plate of maxilliped (Fig. 4, F) armed with two rows of spine and outer row composed of 13 smooth spines and inner row composed of 20 smooth spines; segment 3 of palp shorter than segment 1, segment 1 with 3 setae. Segments 2, 3 of gnathopod 1 (Fig. 4, H) produced anteriorly into moderate lobes, segment 5 shorter than segment 6, posterior margin of segment 5 somewhat produced into blunt lobe, segment 6 with oblique palm, defined by 1 spine, segment 7 curved, fitting the palm. Segments 2, 3 of gnathopod 2 (Fig. 4, I) produced anteriorly into large and broad lobes, posterior margin of segment 5 narrow and produced into pointed lobe, segment 6 large and strong, anterior and posterior margin of segment 6 parallel, dactylar hinge and palm meet with right angle, palm transverse and without spines, defined by 1 large and pointed spine, segment 7 shout and slightly overlapping the palm. Pereopods 1-2 (Fig. 4, J) subequal in length, segments 2 and 4 not strongly expanded, segment 5 shorter than segments 4 and 6. Segment 2 of pereopod 3 (Fig. 4, K) as long as broad, anterior margin armed with 4 spines, segment 6 with 6 spines on the posterior margin. Pereopod 4 (Fig. 4, L) slightly shorter than pereopod 5, anterior margin of segment 2 armed with 7 spines, posterodistal margin concave and with 1 spinule, anterior margin of segment 6 with 8 spines. Segment 2 of pereopod 5 (Fig. 4, M) with 9 spines on the anterior margin, posterodistal margin concave and with 2 spinules, anterior margin of segment 6 with 8 spines. Lower posterior corner of pleonal

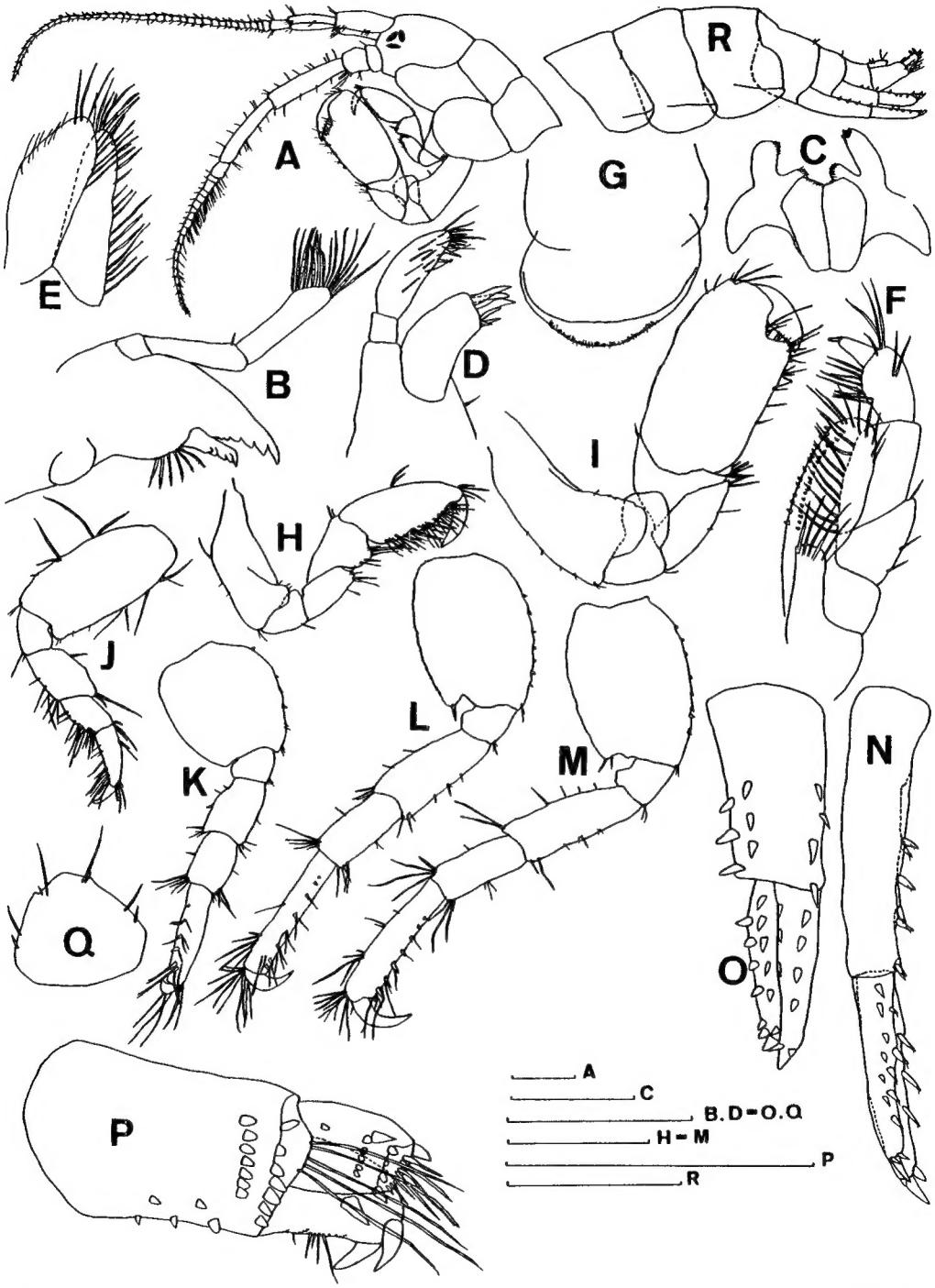

Fig. 4. *Ampithoe brevipalma*, n. sp., male holotype, 12mm: A, anterior part; B, mandible; C, lower lip; D, maxilla 1; E, maxilla 2; F, maxilliped; G, upper lip; H-I, gnathopods 1,2; J-M, pereopods 1,3,4,5; N-P, uropods 1-3; Q, telson; R, posterior part. Scale bars equal 1mm(A, H-M); 0.5mm(B-G, N-Q); 2mm(R).

epimera 2-3 (Fig. 4, R) somewhat pointed, pleonal epimera 1-3 with lateral ridges and ventral margins rounded, posterior margin of pleonal epimeron 3 concave and expanded. Urosomes 1-2 with dorsal setae. Rami of uropod 1 (Fig. 4, N) subequal in length, inner ramus with 3 setae-bearing spines, outer ramus with 5 setae-bearing inner spines and with 6 outer spines; outer margin of peduncle with 4 setae-bearing spines and inner margin with 4 setae-bearing spines. Outer ramus of uropod 2 (Fig. 4, O) shorter and broader than inner ramus, with 5 inner spines and 4 outer spines, inner ramus with 3 outer spines and 4 inner spines; peduncle with 4 inner lateral spines, 3 outer lateral spines and 3 dorsolateral spines. Peduncle of uropod 3 (Fig. 4, P) about 2 times as long as rami, with two rows of 7 dorsodistal spines and 2 dorsolateral spines and 3 lateral spines; inner ramus with 1 apical spines, 3 subapical spines, and 6 dorsal spines; outer ramus with 2 recurved spines, plus 2 acute and large dorsal spines. Telson (Fig. 4, Q) broadly triangular, as long as broad, with 2 dorsal setae and 2 lateral setae on both sides.

Remarks: This new species is very closely related to *Ampithoe lacertosa* Bate, 1858 in the pointed lower posterior corner of pleonal epimera 2-3, but can be distinguished from it in its longer antennae, in the longer segment 5 of male gnathopod 1, in the male gnathopod 2 having the longer and slightly sinuous palm, in the fewer spines on the uropod 3, and in the longer telson.

Ampithoe plumulosa shoemaker, 1938, described from eastern Pacific, is another relative species, but its pleonal epimera 2-3 have rounded lower posterior corner and its male gnathopod 2 have moderate anterodistal lobes on the segments 2 and 3, and have oblique and longer palm. Its antenna 1 is more setose and its uropod 3 have fewer spines and its mandibular palp have obliquely truncate segment 3, with 3 setae on the segment 2.

Ampithoe valida Smith, 1873 is another species with the rounded lower posterior corner of pleonal epimera 2-3 and its palm of male gnathopod 2 is longer than that of *Ampithoe brevipalma*. Also, its palm of male gnathopod 2 have middle hump and its male gnathopod 1 have segment 5 which is longer than segment 6.

Etymology: The specific name *brevipalma* [*brevis* (L. short) + *palma* (L. palm)], referring to the short palm of male gnathopod 2.

5. Ampithoe koreana, n. sp. (Figs. 5, 6)

Material examined: Holotype — 1♂ (SAH00002), Ayajin (body length: 14mm), May 22, 1981 (D.H. Kwon); Paratypes — 3♂♂ (SAP00004); collected with holotype; 1♂ (SAP00005), Sŏgwip'o, Jul. 17, 1974 (K.S. Lee);1♂ (SAP00006), Mip'o, Jul. 21, 1976 (K.S. Lee); 6♂♂, 6♀♀ (SAP00007), Kuryongp'o, Aug. 12, 1976 (H.S. Kim); 2♂♂, 2 young (SAP00008), Chumunjin, Sep. 30, 1976 (K.S. Lee); 1♂, 1♀ (SAP00009), Sŏnngsanp'o, Jan. 18, 1985 (C.B. Kim); 1♂, 1♀, 1 young (SAP00010), Upper Chu'jado I., Jul. 17, 1985 (H.S. Kim & I.H. Kim); 1♂ (SAP00011), Yŏsŏdo I., Aug. 20, 1982 (H.S. Kim); 4♂♂, 10♀♀ (SAP00012), Udo I., Jul. 15, 1973 (K.S. Lee). All type specimens were collected among algae in tide pools.

Description of holotype male: Head (Fig. 5, A) shorter than first 2 pereonal segments together, lateral lobes nearly truncate. Eye relatively small, black in alcohol and oblong in outline. Antenna 1 shorter than antenna 2, peduncular segment 1 longer than peduncular segment 2, with 1 disteroventral spine in the inner side; flagellum longer than that of antenna 2, composed of 25 segments. Antenna 2 stout, peduncular segments 4 and 5 somewhat expanded, peduncular segment 4 slightly longer than peduncular segment 5; peduncular segments 4, 5 and flagellar segments densely lined with plumose

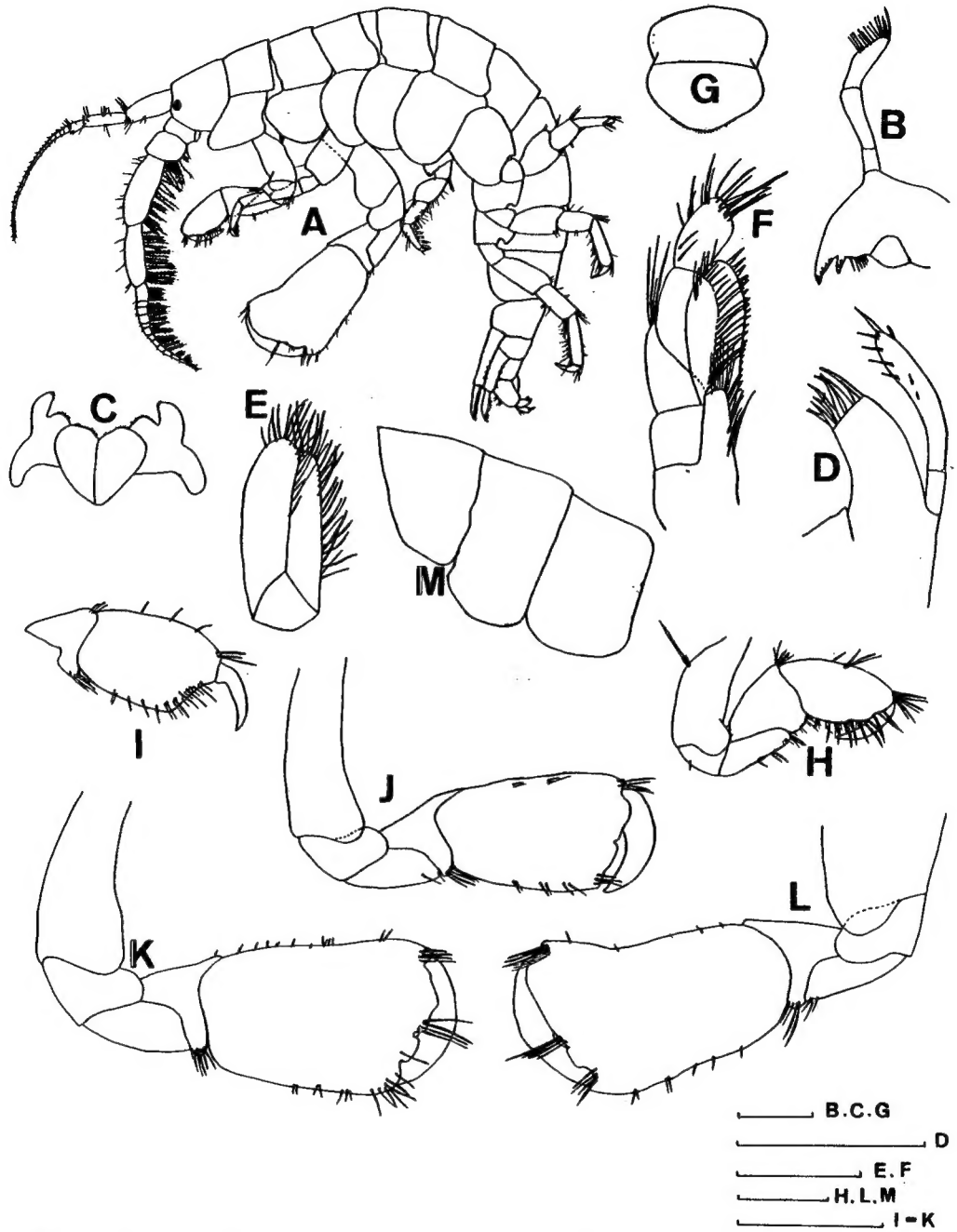

Fig. 5. *Ampithoe koreana*, n. sp., male holotype, 14mm: A, lateral view; B, mandible; C, lower lip; D, maxilla 1; E, maxilla 2; F, maxilliped; G. upper lip; H, gnathopod 1; L, gnathopod 2; M, pleonal epimera 1-3; male paratype,7mm: I, gnathopod 2; male paratype, 8.5mm: J, gnathopod 2; male paratype, 9mm: K, gnathopod 2. Scale bars equal 0.5mm (B-G); 1mm (H-M).

setae, flagellum shorter than peduncular segments 4, 5 combined, composed of 14 segments. Segment 2 of mandibular palp (Fig. 5, B) longer than segment 3, without setae, segment 3 blunt, with setae on the apical margin; primary plate with 7 teeth, accessory plate with 4 teeth, spine row with

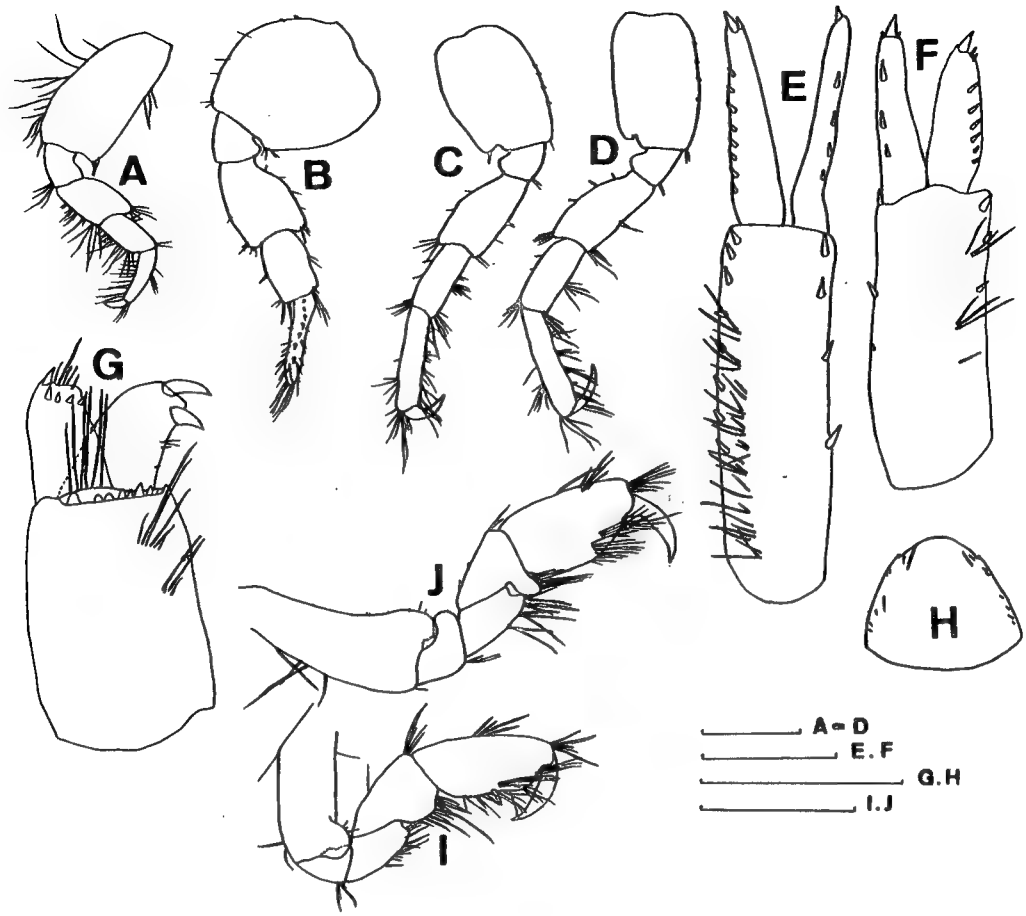

Fig. 6. *Ampithoe koreana*, n. sp., male holotype, 14mm: A-D, pereopods 1,3,4,5; E-G, uropods 1-3; H, telson; female paratype, 10mm: I-J, gnathopods 1-2. Scale bars equal 1mm (A-D, I, J); 0.5mm(E-H).

6 spines. Apical lobules of lower lip (Fig. 5, C) well separated, longer than medial lobes. Inner plate of maxilla 1 (Fig. 5, D) without setae, outer plate with 9 teeth on the apex, palp with 5 marginal spines and 3 setae. Inner plate of maxilla 2 (Fig. 5, E) narrower than outer plate, apex of outer plate relatively evenly convex. Outer plate of maxilliped (Fig. 5, F) armed with 20 serrated spines, segment 3 of palp shorter than segment 1, segment 1 with terminal setae. Segment 2 of gnathopod 1 (Fig. 5, H) produced anteriorly into moderate lobe, segment 3 without anterior lobe, segment 5 shorter than segment 6, posterior margin moderately produced into rounded lobe, segment 6 with oblique palm, palm defined with 1 spine, segment 7 curved and overlapping the palm. Segments 2, 3 of gnathopod 2 (Fig. 5, L) produced anteriorly into large and broad lobes, posterior margin of segment 5 narrow and produced into pointed lobe, segment 6 large and strong, expanding distally, palm oblique, with middle quadrate hump and defined with rounded and large spine, segment 7 fitting the palm. Pereopods 1-2 (Fig. 6, A) subequal in length, segments 2 and 4 not strongly expanded, segment 5 shorter than segments 4 and 6. Segment 2 of pereopod 3 (Fig. 6, B) as long as broad, anterior margin armed with 2 spines, segment 6 with 7 spines on the posterior margin. Pereopod 4 (Fig. 6, C) slightly shorter than pereopod 5, anterior margin of segment 2 with 4 spines, posterodistal margin concave and with 1 spinule, anterior margin of segment 6 with 6 spines. Segment 2 of pereopod 5 (Fig. 6, D) with 4 spines on the anterior

margin, posterodistal margin concave, anterior margin of segment 6 with 6 spines. Lower posterior corner of pleonal epimera 2-3 (Fig. 5, M) rounded, pleonal epimeral 1-3 without lateral ridges and ventral margin somewhat rounded, posterior margin of pleonal epimeron 3 slightly expanded. Rami of uropod 1 (Fig. 6, E) equal in length, outer ramus with 8 outer spines, inner ramus with 4 inner spines; outer margin of peduncle with 8 spines and inner margin with 4 spines, peduncle with ventral setae. Outer ramus of uropod 2 (Fig. 6, F) slightly shorter and broader than inner ramus, with 6 outer spines, inner ramus with 3 inner spines; peduncle with 3 outer lateral spines and with 3 inner lateral spines, and with ventral setae. Peduncle of uropod 3 (Fig. 6, G) about 2 times as long as rami, with a row of 8 dorsodistal spines and 2 minute dorsolateral spines and with two bundles of dorsal setae; outer ramus with only 2 recurved spines, inner ramus with 1 apical spine and 4 subapical spines and with 1 minute lateral spine. Telson (Fig. 6, H) broadly triangular, as long as broad, with 2 dorsal setae and 6 lateral setae on both sides.

Description of female (body length: 10mm): Gnathopods like those of male gnathopod 1, but posterior lobe of segment 5 of gnathopod 1 (Fig. 6, I) truncate, that of gnathopod 2 (Fig. 6, J) sharp.

Remarks: This new species is very closely related to *Ampithoe zachsi* Gurjanova, 1938, described from Petrov Island (Japan Sea), in the antenna 2 which is densely lined with plumose setae. But, *A. koreana* may be readily distinguished from *A. zachsi* by the stronger male gnathopod 2 with more expanded segment 6; by the oblique palm of male gnathopod 2 with a middle quadrate hump; by the longer flagellum of male antenna 2; by the development of anterior lobe of segment 3 in male gnathopod 2.

This species can readily be recognized by the plumose setae on the antenna 2 and by peculiar shape of male gnathopod 2.

6. Ampithoe youngsanensis, n. sp. (Figs. 7, 8)

Material examined: Holotype — 1♂ (SAH00003) Yŏngsando I., (body length: 12.5mm), Jul. 20, 1986 (H.S. Kim); Allotype — 1♀ (SAA00001) (body length: 10.5mm), collected with holotype; Paratypes — 2♂♂, 10♀♀ (SAP00013), collected with holotype. Type specimens were collected among algae in tide pools.

Description of holotype male: Head (Fig. 7, A) shorter than first 2 pereonal segments together, lateral lobes nearly truncate. Eye relatively small, black in alcohol, and oblong in outline. Antenna 1 shorter than antenna 2, peduncular segment 1 longer than peduncular segment 2, ventral margin of peduncular segment 1 not spiniferous; flagellum longer than that of antenna 2, composed of 23 segments. Posterior margin of antenna 2 densely setose, peduncular segment 4 longer than peduncular segment 5; flagellum as long as last 2 peduncular segments combined, composed of 16 segments. Segment 2 of mandibular palp(Fig. 7, B) as long as segment 3, with 4 distal setae, segment 3 obliquely truncate, with apical setae; primary plate with 6 teeth, accessory plate with 4 teeth, spine row with 5 spines. Apical lobules of lower lip (Fig. 7, C) separated, longer than medial lobules. Inner plate of maxilla 1 (Fig. 7, D) with 2 apical setae, outer plate with 8 teeth on the apex, palp with 4 marginal spines and 4 setae. Inner plate of maxilla 2 (Fig. 7, E) narrower than outer plate, apex of outer plate truncate. Outer plate of maxilliped (Fig. 7, F) armed with 14 smooth spines, segment 1 of palp slightly shorter than segment 3, segment 1 with 2 setae. Segment 2 of gnathopod 1 (Fig. 7, H) produced anteriorly into moderate lobe, segment 3 without anterior lobe, segment 5 shorter than segment 6, and posterior lobe of segment 5 not strongly produced, segment 6 with oblique palm, palm defined

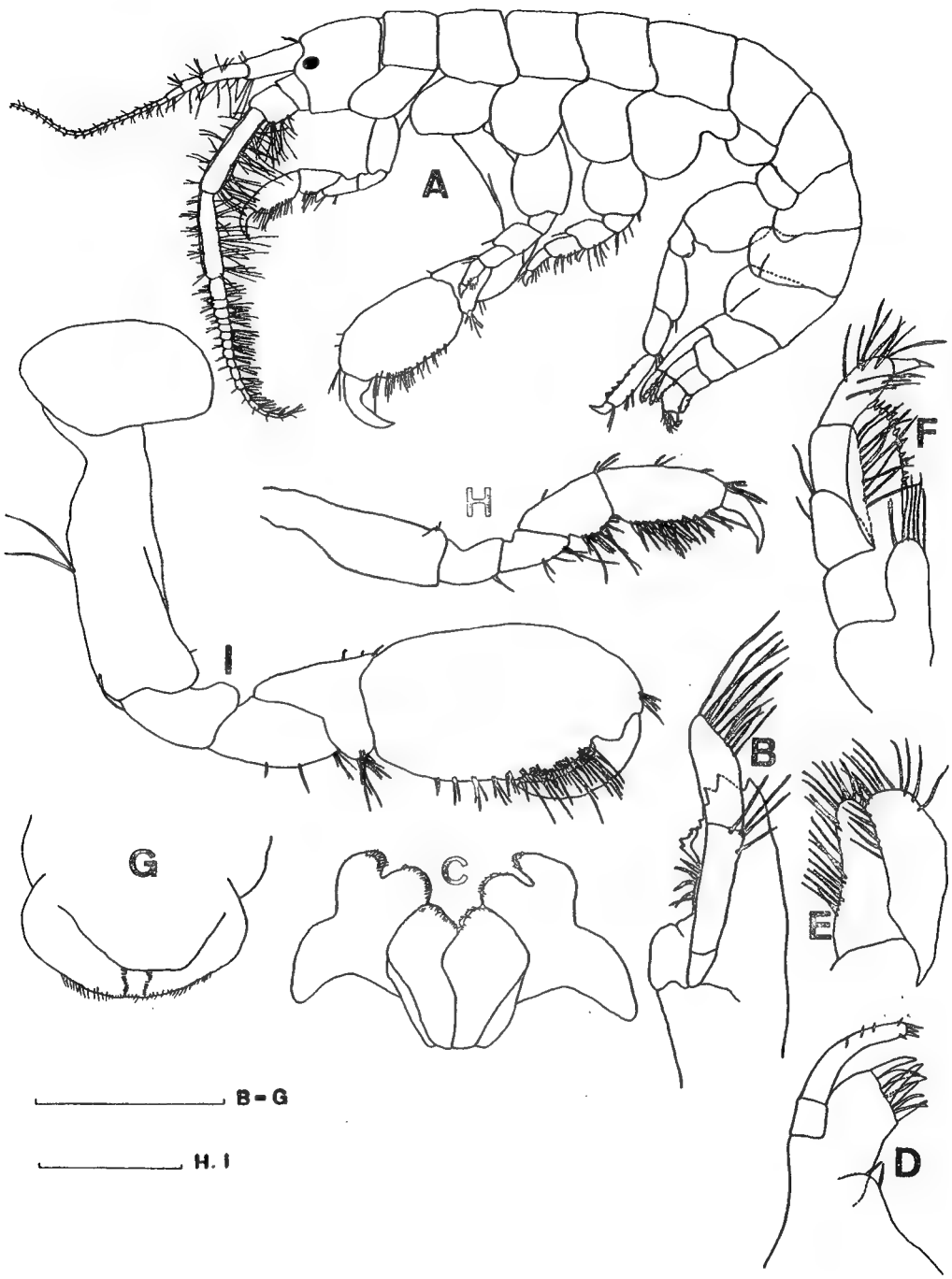

Fig. 7. *Ampithoe youngsanensis,* n. sp., male holotype, 12.5mm: A, lateral view; B, mandible; C, lower lip; D, maxilla 1; E, maxilla 2; F, maxilliped; G, upper lip; H-I, gnathopods 1,2. Scale bars equal 0.5mm (B-G); 1mm (H, I).

with 1 spine, segment 7 curved, overlapping the palm. Segments 2, 3 of gnathopod 2 (Fig. 7, I) produced anteriorly into moderate lobe, posterior margin of segment 5 narrow and produced into moderate lobe; segment 6 strong, anterior and posterior margin parallel, palm and posterior margin congruent,

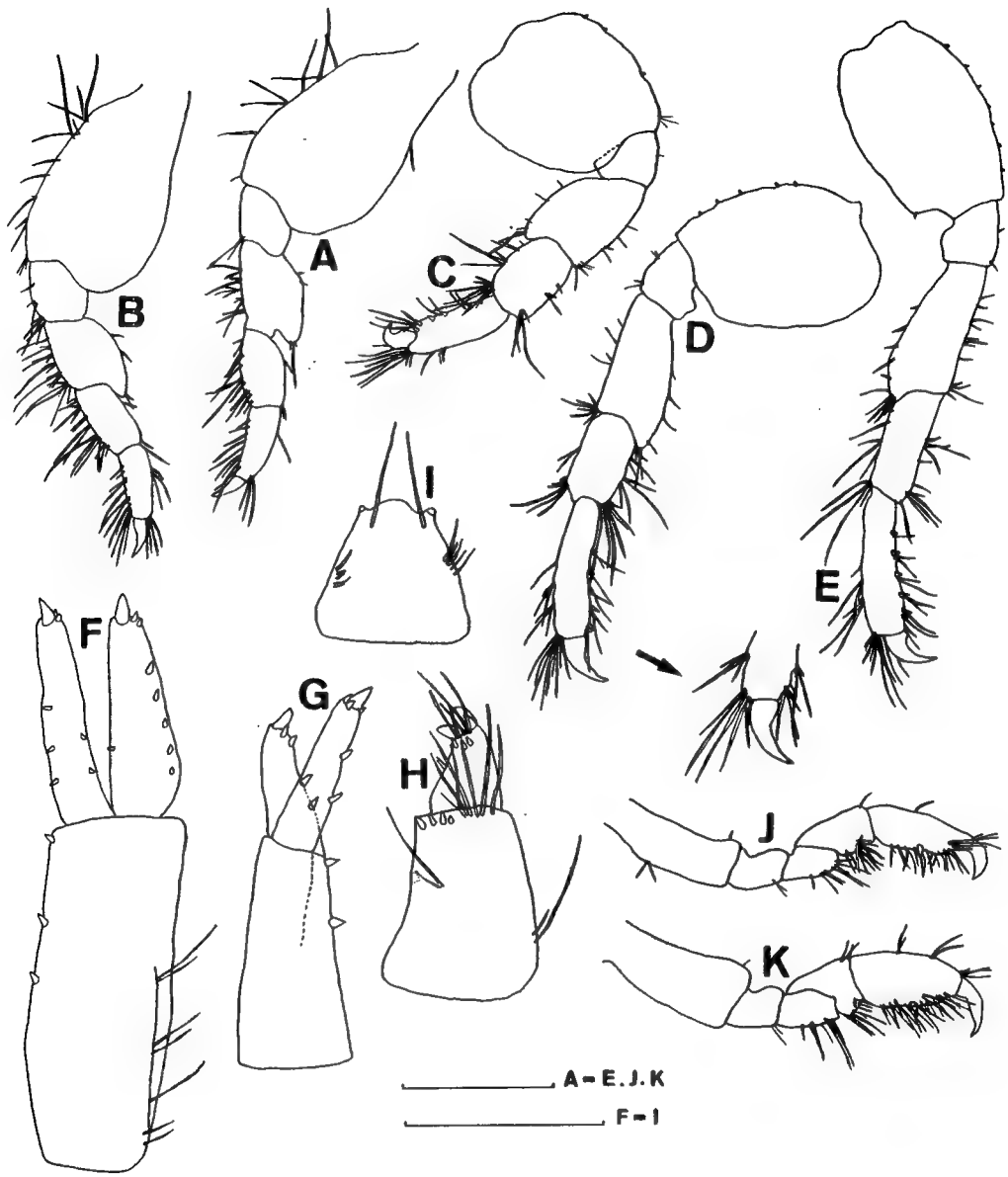

Fig. 8. *Ampithoe youngsanensis*, n. sp., male holotype, 12.5mm: A-E, pereopods 1-5; F-H, uropods 1-3; I, telson; female allotype, 10.5mm: J-K, gnathopods 1,2. Scale bars equal 1mm (A-E, J, K); 0.5mm(F-I).

palm undefined, somewhat convex and uneven, densely setose, medioterminal face of segment 6 without large brush of long, apically turned, stiff setae, segment 7 1/2 times as long as segment 6. Pereopods 1-2 (Fig. 8, A, B) subequal in length, segment 2 about 0.6 times as long as broad, segment 4-6 equal in length, segment 4 as long as broad, segment 4 of pereopod 1 with concave distal margin. Segment 2 of pereopod 3 (Fig. 8, C) as long as broad, anterior margin with 3 small spines, segments 4-6 relatively expanded, segment 6 with 6 spines on the posterior margin in which 1 spine near dactylar hinge curved. Pereopod 4 (Fig. 8, D) slightly shorter than pereopod 5, anterior margin of segment 2 with 5 spines, posterodistal margin slightly concave, anterior margin of segment 6 with 6 spines in which 1 small

spine near dactylar hinge not striate and curved. Segment 2 of pereopod 5 (Fig. 8, E) with 7 small spines, posterodistal margin concave and with 1 spinule, anterior margin of segment 6 with 6 spines. Lower posterior corner of pleonal epimera 2-3 (Fig. 7, A) somewhat rounded and with lateral ridges, ventral margin of pleonal epimera 1-3 rounded, posterior margin of pleonal epimeron 3 slightly expanded. Rami of uropod 1 (Fig. 8, F) subequal in length, outer ramus with 5 outer spines and 1 inner spines, inner ramus with 2 outer spine and 3 inner spines; peduncle with 3 inner lateral spines and ventral setae. Outer ramus of uropod 2 (Fig. 8, G) slightly shorter than inner ramus, with 3 outer spines, inner ramus with 2 inner spines; peduncle with 2 outer lateral spines. Peduncle of uropod 3 (Fig. 8, H) more than 2 times as long as rami, with 4 dorsal spines; outer ramus with only 2 recurved spines, inner ramus with 1 apical spine and 3 subapical spines. Telson (Fig. 8, I) broadly triangular, longer than broad, 1 dorsal seta and 5 lateral setae on both sides.

Description of allotype female: Posterior lobe of segment 5 of gnathopod 1 (Fig. 8, J) truncate and that of gnathopod 2 (Fig. 8, K) pointed.

Remarks: This new species is very closely related to *Ampithoe kaneohe* Barnard, 1970, reported from Hawaiian Islands (Barnard, 1970; 1971) and Madagascar (Ledoyer, 1982), in the male gnathopod 2 having the palm and the posterior margin of hand congruent. But, *Ampithoe youngsanensis* may readily be distinguished from *A. kaneohe* by the following points: 1. Flagellum of antenna 2 have same length as the peduncular segments 4 and 5 combined. 2. Antenna 2 is lined with setae densely. 3. The segment 5 of male gnathopod 2 is produced into moderate posterior lobe. 4. The segment 6 of male gnathopod 2 is not tapering and palm is densely setose and medioterminal face of segment 6 have not large brush of long, apically truned, stiff setae. 5. The segments of pereopods 1-2 are more expanded. 6. The dactylar hinge of pereopods 3-5 have 1 simple and 1 not-striate, curved spine. 7. The longer body length. 8. Telson is longer than broad.

Ampithoe youngsanensis can readily be recognized by the antenna 2 which is densely setose and by the male gnathopod 2 having the palm and posterior margin of hand congruent.

Etymology: The specific name is based upon the Yŏngsando I. where the type specimens were collected.

7. ***Ampithoe ramondi*** Audouin, 1826 (Fig. 9)

Amphithoë ramondi Audouin, 1826 (p. 93, pl. 11, fig. 6).

Amphithoë ramondi: Krapp-Schickel, 1978 (pp. 1-4, figs. 1-2).

Ampithoe ramondi: Barnard, 1965 (pp. 25-27, fig. 15); 1970 (p. 50, figs. 18-19); Rabindranath, 1972 (pp. 162-164, 166, figs. 1-2); Nagata, 1965 (p. 315, fig. 38D).

Amphithoe Vaillanti: Chevreux and Fage, 1925 (pp. 333-334, figs. 341, 342).

Amphithoë intermedia: Walker, 1904 (pp. 290-291, p. 7, fig. 46).

Ampithoe divisura Shoemaker, 1933 (pp. 255-256, fig. 8).

Material examined: 3♂♂, 2♀♀, Kuryongp'o, Aug. 12, 1976 (H.S. Kim); 3♂♂, 1♀, Pangchukp'o, Jul. 6, 1977 (D.H. Kwon); 1♂, Kukto I., Jul. 20, 1978 (H.S. Kim); 1♂, Hujin, Oct. 2, 1984 (S.M. Yoon).

Distribution: Cosmopolitan in tropical and subtropical seas.

Genus *Peramphithoe* Conlan and Bousfield, 1982

8. ***Peramphithoe baegryeongensis*, n. sp.** (Fig. 10)

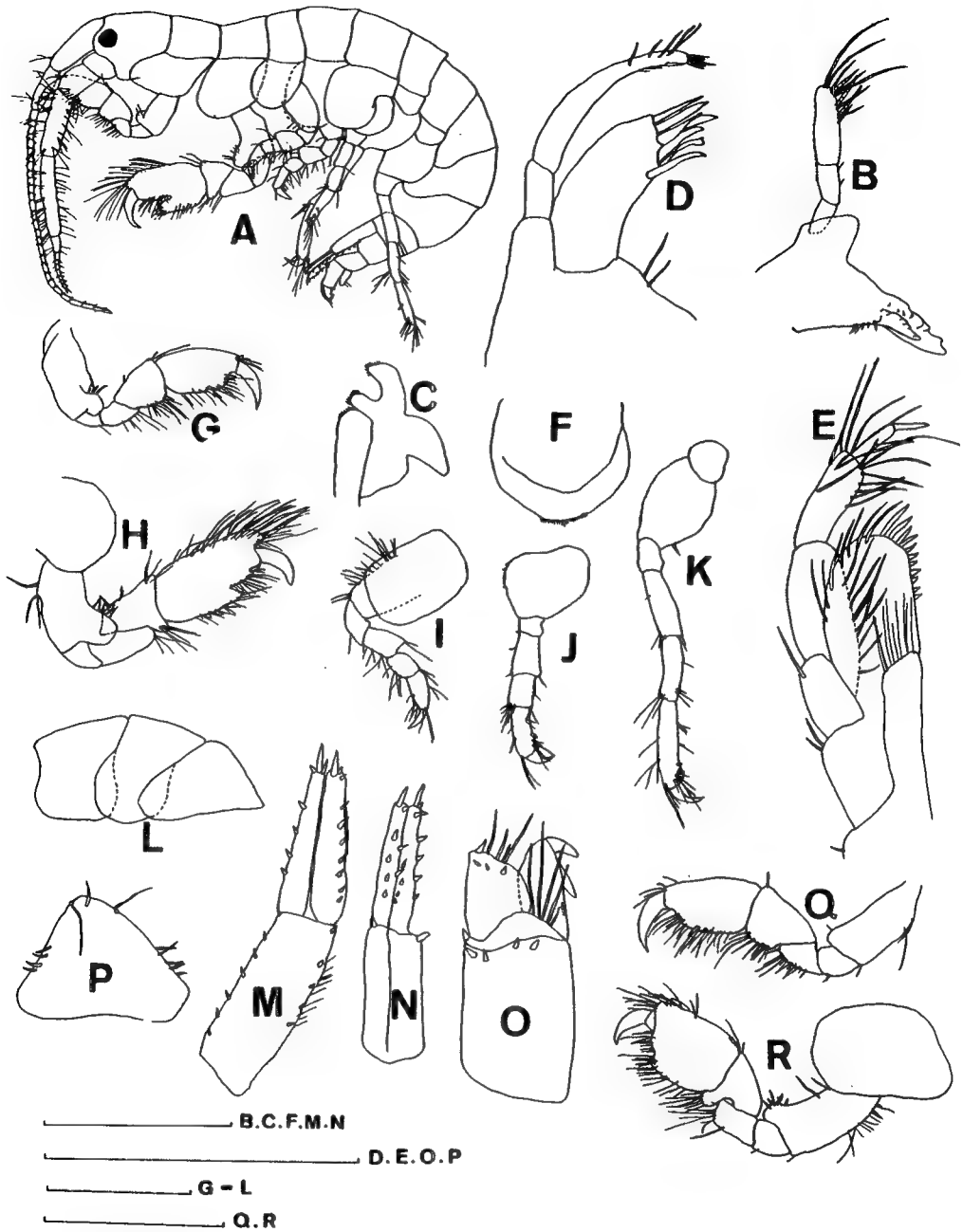

Fig. 9. *Ampithoe ramondi* Audouin, 1826, male, 10mm: A, lateral view; B, mandible; C, lower lip; D, maxilla 1; E, maxilliped; F, upper lip; G-H, gnathopods 1, 2; I-K, pereopods 1,3,5; L, pleonal epimera 1-3; M-O, uropods 1-3; P, telson; female, 8.7mm: Q-R, gnathopods 1,2. Scale bars equal 0.5mm (B-F, M-P); 1mm(G-L, Q, R).

Material examined: Holotype — 1♂ (SAH00004), Paengnyŏngdo I., (body length: 8mm), Jul. 25, 1987 (H.S. Kim & B.H. Choe); Allotype — 1♀ (SAA00002) (body length: 9mm), collected with holotype; Paratypes — 4♂♂, 10♀♀ (SAP00014), collected with holotype; 2♂♂, 1♀ (SAP00015), Imwŏn, Jul. 20,

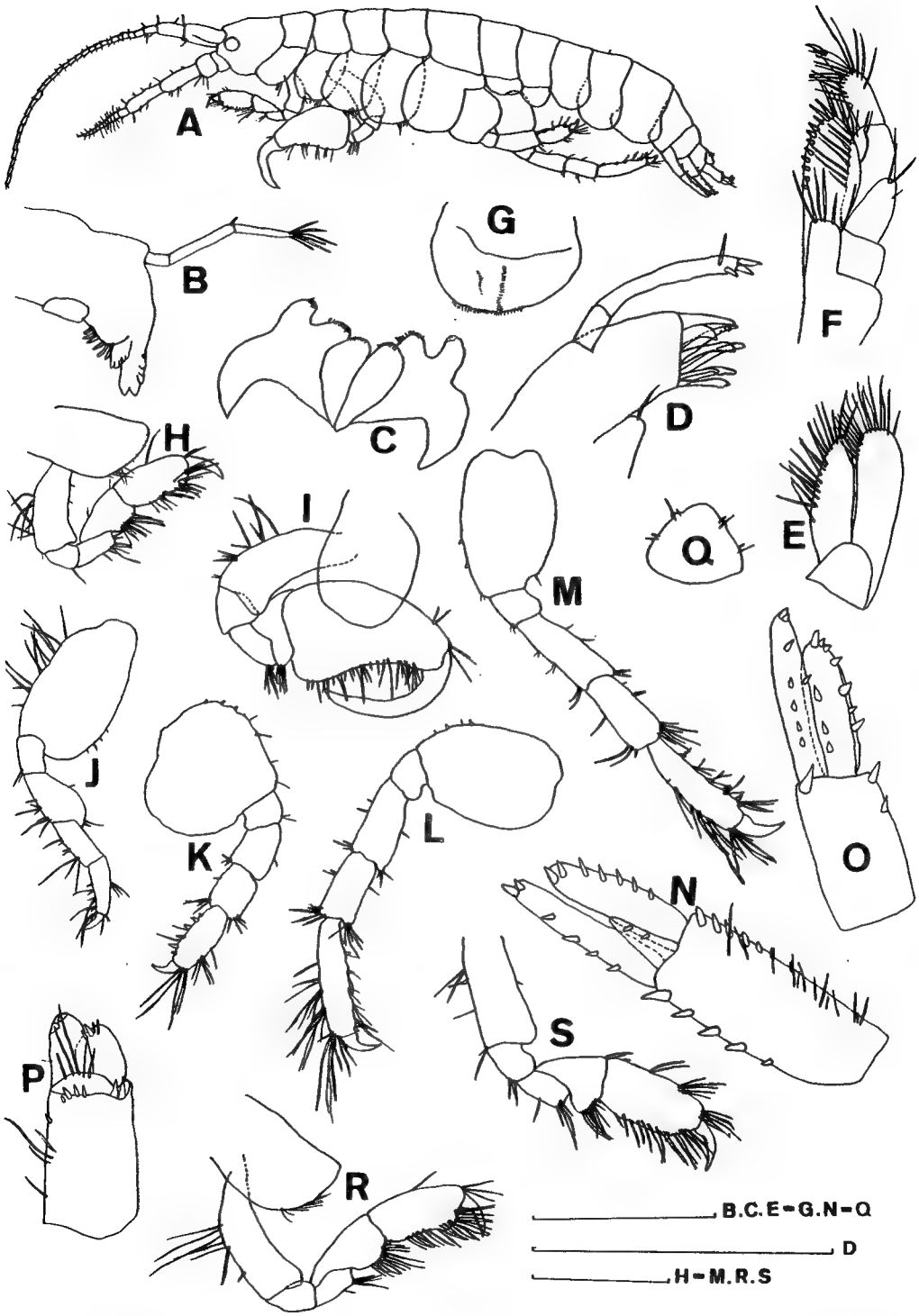

Fig. 10. *Peramphithoe baegryeongensis,* n. sp., male holotype, 8mm: A, lateral view; B, mandible; C, lower lip; D, maxilla 1; E, maxilla 2; F, maxilliped; G, upper lip; H-I, gnathopods 1,2; J-M, pereopods 1,3,4,5; N-P, uropods 1-3; Q, telson; female allotype, 9mm: R-S, gnathopods 1,2. Scale bars equal 0.5mm (B-G, N-Q); 1mm (H-M, R, S).

1985 (D.H. Kwon); 1♂ (SAP00016), Ch'ŏnbu, Aug. 7, 1985 (D.H. Kwon). Type specimens were collected among algae in tide pools.

Description of holotype male: Head (Fig. 10, A) shorter than first 2 pereonal segments together, lateral lobes nearly truncate. Eye clear in alcohol and round in outline. Peduncular segment 1 of antenna 1 as long as peduncular segments 2 and 3 combined, with 1 ventrodistal spine; flagellum composed of 28 segments. Antenna 2 about 1/2 time as long as antenna 1, peduncular segment 4 and 5 equal in length, flagellum stout, about 1/4 times as long as that of antenna 1, weakly setose, proximal 1-2 flagellar segments combined, flagellum composed of 12 segments. Mandibular palp (Fig. 10, B) slender, segment 2 of mandibular palp longer than segment 3, with 1 distal seta; primary plate with 6 teeth, accessory plate with 5 teeth, spine row with 6 spines. Apical lobules of lower lip (Fig. 10, C) well separated, moderately longer than medial lobules. Inner plate of maxilla 1 (Fig. 10, D) with 1 apical seta, outer plate with 8 teeth on the apex, palp relatively slender, with 3 marginal spines and 1 seta. Inner plat of maxilla 2 (Fig. 10, E) narrower than outer plate, apex of outer plate evenly convex. Outer plate of maxilliped (Fig. 10, F) armed with 11 serrated spines, segment 1 of palp slightly longer than segment 3, with 3 setae. Coxa 1 of gnathopod 1 (Fig. 10, H) slightly produced anteriorly, segment 2 produced into moderate anterior lobe, posterior lobe of segment 5 not pointed, segment 6 longer than segment 5, palm transverse, not produced, palmar angle smooth, defined by 1 spine, segment 7 overlapping the palm. Segments 2 and 3 of gnathopod 2 (Fig. 10, I) produced anteriorly into moderate rounded lobe, segment 5 narrow, posterior lobe pointed, segment 6 long and tapering distally, palm corresponding to posterior margin of segment 6 and concave, proximal part of posterior margin of segment 6 broad and strongly lobed, distal margin of palm not produced into a large process, segment 7 strong and curved, shorter than segment 6. Ventral margin of coxae 1-4 with several setae. Pereopods 1 and 2 (Fig. 10, J) equal in length, segment 2 expanded 1.6 times as long as broad, segment 4 moderately produced anteriorly, segments 4-6 equal in length. Segment 2 of pereopod 3 (Fig. 10, K) armed with 3 spines, broader than long, segment 6 with 6 spines on the posterior margin. Pereopod 4 (Fig. 10, L) slightly shorter than pereopod 5, anterior margin of segment 2 with 2 spines, posterodistal margin slightly concave, segment 5 shorter than segment 4 and segment 6 longer than segment 4, anterior margin of segment 6 with 7 spines. Segment 2 of pereopod 5 (Fig. 10, M) with 2 spines, posterodistal margin slightly concave and with 1 spinule, segment 5 shorter than segment 4 and segment 6 longer than segment 4, proximal part of segment 6 narrower than distal part, anterior margin of segment 6 with 6 spines. Lower posterior corner of pleonal epimera 2-3 rounded and with lateral ridges, ventral margin of pleonal epimera 1-3 rounded, posterior margin of pleonal epimeron 3 concave and its distal part expanded. Outer ramus of uropod 1 (Fig. 10, N) shorter than inner ramus, with 5 outer spines and 2 inner spines, inner ramus with only 4 inner spines; peduncle with 7 outer spines and 5 inner spines and with ventral setae, peduncular process reaching the 1/2 times as long as outer ramus. inner ramus of uropod 2 (Fig. 10, O) slightly longer than peduncle, with 5 inner spines and 1 outer spines, outer ramus shorter than inner ramus, with 4 outer spines and 3 inner spines; peduncle with 2 outer spines and 1 inner apical spine, peduncular process obsolete. Peduncle of uropod 3 (Fig. 10, P) about 2 times as long as rami, with 6 dorsodistal spines and 1 lateral spine; outer ramus with only 2 recurved spines, inner ramus with 2 apical spines. Telson (Fig. 10, Q) broadly triangnlar, broader than long, 2 dorsal setae and 2 lateral setae on both sides.

Description of allotype female: Palm of gnathopod 1 (Fig. 10, R) transverse, slightly sinuous and palmar angle somewhat expanded. Palm of gnathopod 2 (Fig. 10, S) oblique and defined by a spine,

posterior lobe of segment 5 pointed.

Remarks: This new species is closely related to Barnard (1954)'s Oregon *Ampithoe eoa* (not *Peramphithoe eoa* (Brüggen, 1907)). But, in Barnard (1954)'s Oregon *A. eoa* the palmar angle of male gnathopod 1 is acute, the palm of male gnathopod 2 have a large process on the distal margin, and the segment 4 of pereopods 1 and 2 is strongly produced anteriorly.

Peramphithoe eoa (Brüggen, 1907) (cited from Conlan and Bousfield, 1982; Gurjanova 1938, 1951) is very similar to this new species, but the peduncle of uropod 3 is much longer; the palm of female gnathopod 2 is crenulate and less oblique; the palm of male gnathopod 2 is not concave and its segment 7 is much longer.

Etymology: The specific name is based upon the Paengnyŏng I. where holotype was collected.

***9. Peramphithoe namhaensis*, n. sp.** (Figs. 11, 12)

Material examined: Holotype — 1♂ (SAH00005), Upper Chujado I., (body length: 15.5mm), Jul. 18, 1985 (H.S. Kim & I.H. Kim); Allotype — 1 ♀ (SAA00003), Upper Ch'ujado I., (body length: 9.7mm), Jul. 18, 1985; Paratypes — 6♀♀ (SAP00017), Upper Ch'ujado I., Jul. 18, 1985; 2♂♂, 2♀♀ (SAP00018), Sŏgwip'o, Jul. 13, 1973 (K.S. Lee); 2♂♂ (SAP00019), Yŏsŏdo I., Aug. 20, 1982 (H.S. Kim). Type specimens were collected among algae in tide pools.

Description of holotype male: Head (Fig. 11, A) shorter than first 2 pereonal segments together, lateral lobes truncate. Eye relatively large, clear in alcohol and round in outline. peduncular segments 1 and 2 of antenna 1 equal in length, ventrodistal margin of peduncular segment 1 with 1 spine, flagellum of antenna 1 about 3 times as long as that of antenna 2, composed of 49 segments. Antenna 2 about 1/2 times as long as antenna 1, peduncular segment 4 longer than peduncular segment 5, flagellum relatively slender and weakly setose, composed of 31 segments. Mandibular palp (Fig. 11, B) relatively stout, segment 2 longer than segment 3, without setae and segment 3 blunt, with setae on the apex; primary plate with 10 teeth, accessory plate with 9 teeth, spine row with 7 spines. Apical lobules of lower lip (Fig. 11, C) well separated, outer apical lobule much longer than medial lobules. Inner plate of maxilla 1 (Fig. 11, D) without setae, outer plate with 7 spines on the apex, palp relatively stout, with 7 marginal spines and 4 setae. Inner plate of maxilla 2 (Fig. 11, E) narrower than outer plate, apex of outer plate truncate. Outer plate of maxilliped (Fig. 11, F) armed with 20 setae-bearing weakly serrated spines, segment 1 of palp longer than segment 3, with 5 setae. Segment 2 of gnathopod 1 (Fig. 11, G) produced into moderate anterior lobe, segments 5 and 6 equal in length, posterior margin of segment 5 not produced into pointed lobe, palm transverse, defined with a small spine, segment 7 overlapping the palm. Segments 2 and 3 of gnathopod 2 (Fig. 11, H) produced anteriorly into moderate rounded lobe, segment 5 narrow, posterior lobe pointed, segment 6 long and slightly tapering distally, palm corresponding to posterior margin of segment 6 and concave, distal margin of palm produced into a large process, with a smaller, inner process proximal to it, with next depressed part, and with proximal uneven part, segment 7 curved, slightly sinuous, reaching back to segment 6, segment 7 terminating in corneous claw. Pereopods 1 and 2 (Fig. 12, A) equal in length, segment 2 expanded, 1.6 times as long as broad, segment 4 moderately expanded, segments 4-6 equal in length. Segment 2 of pereopod 3 (Fig. 12, B) as long as broad, with 1 spine on the anterodistal margin and 3 spines on the posterodistal margin, segment 6 with 7 spines on the posterior margin. Pereopod 4 (Fig. 12, C) slightly shorter than pereopod 5, segment 2 proximally expanded, anterior margin of segment 2 with 5 spines and posterodistal margin slightly concave, with 2 spinules, anterior margin of segment

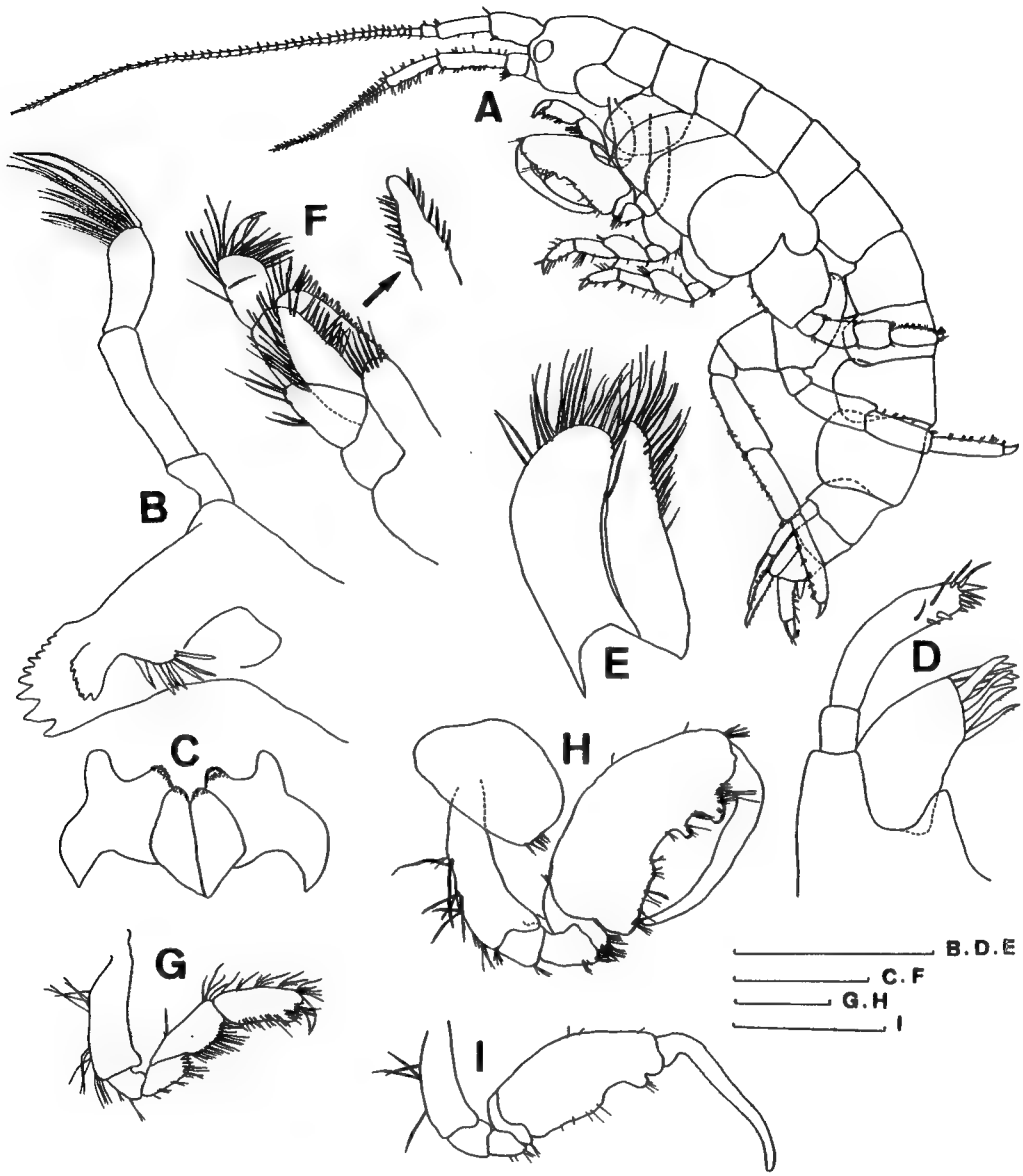

Fig. 11. *Peramphithoe namhaensis*, n. sp., male holotype, 15.5mm: A, lateral view; B, mandible; C, lower lip; D, maxilla 1; E, maxilla 2; F, maxilliped; G-H, gnathopods 1, 2; male paratype, 8.3mm: I, gnathopod 2. Scale bars equal 0.5mm (B-F); 1mm(G-I).

6 with 8 spines. Segment 2 of pereopod 5 (Fig. 12, D) proximally expanded, anterior margin with 8 spines and posterodistal margin slightly concave, with 2 spinules, anterior margin of segment 6 with 9 spines. Lower posterior corner of pleonal epimera 2-3 rounded, without lateral ridges, ventral margin of pleonal epimera 1-3 rounded, posterior margin of pleonal epimeron 3 slightly concave. Outer ramus of uropod 1 (Fig. 12, E) shorter than inner ramus, with 8 outer spines, inner ramus with 8 inner spines; peduncle with 5 outer spines and 7 inner spines and ventral setae, peduncular process reaching the less than 1/2 times as long as outer ramus. Inner ramus of uropod 2 (Fig. 12, F) longer than peduncle, with 10 inner spines and 5 outer spines, outer ramus shorter than inner ramus, with

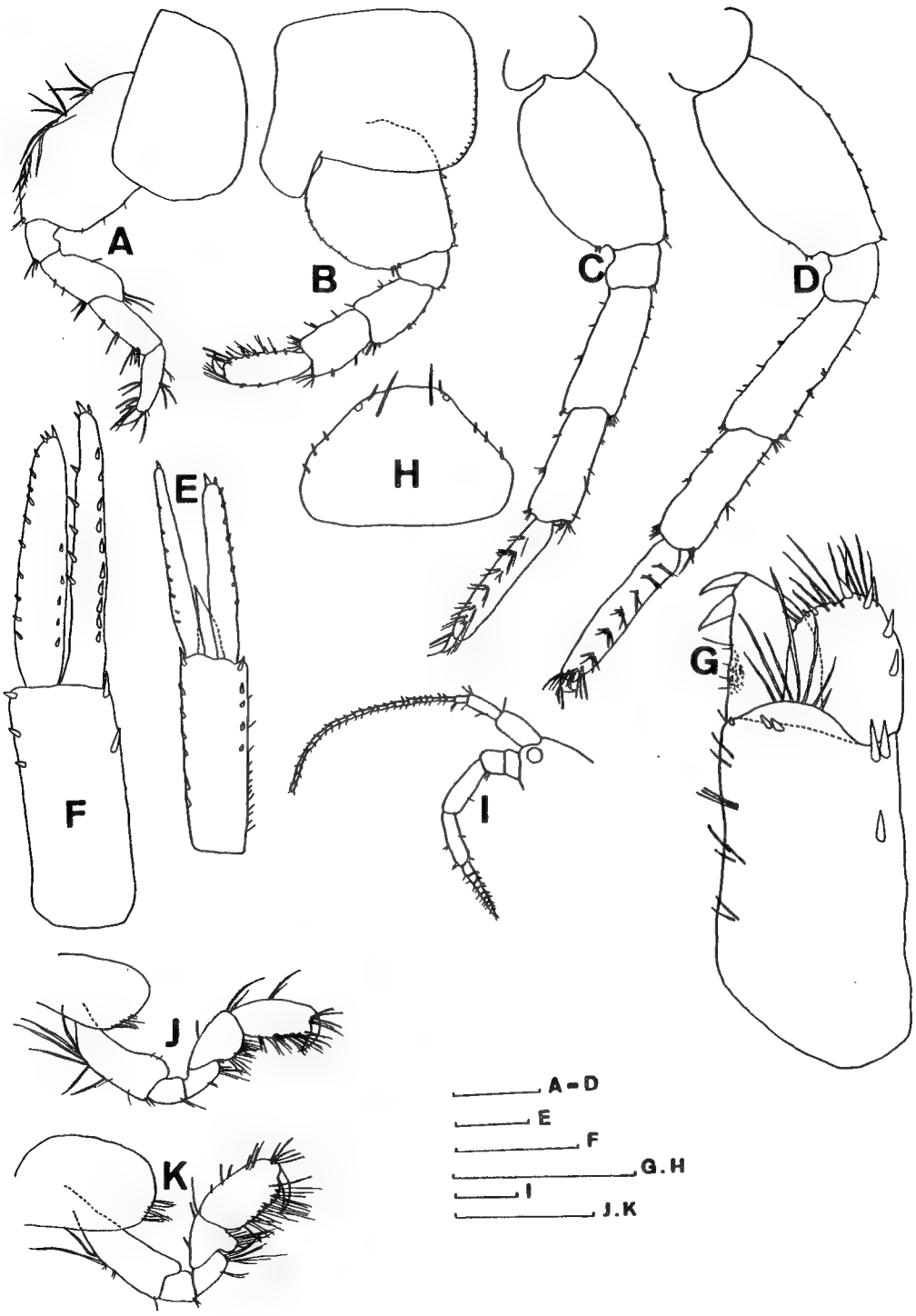

Fig. 12. *Peramphithoe namhaensis,* n. sp., male holotype, 15.5mm: A-D, pereopods 1,3,4,5; E-G, uropods 1-3; H, telson; female allotype, 9.7mm: I, anterior part; J-K, gnathopods 1,2. Scale bars equal 1mm (A-D, I-K); 0.5mm (E-H).

10 outer spines and 5 inner spines; peduncle with 2 inner spines and 3 outer spines, peduncular process obsolete. Peduncle of uropod 3 (Fig. 12, G) more than 2 times as long as rami, with 5 dorsodistal spines and 1 dorsolateral spine; outer ramus only 2 recurved spines, inner ramus with 4 apical spines and 2 lateral spines. Telson (Fig. 12, H) broadly triangular, broader than long, 2 dorsal setae and 3 lateral setae on both sides.

Description of allotype female: Palm of gnathopod 1 (Fig. 12, J) transverse, slightly sinuous, produced slightly. Segment 5 of gnathopod 2 (Fig. 12, K) shorter than segment 6, palm obliquely convex, defined by a spine, segment 7 overlapping the palm.

Remarks: This new species is very closely related to *Peramphithoe tea* (Barnard, 1965), But, *Peramphithoe namhaensis* differs from *P. tea* by the peculiar palmar shape of male gnathopod 2 (Fig. 11,

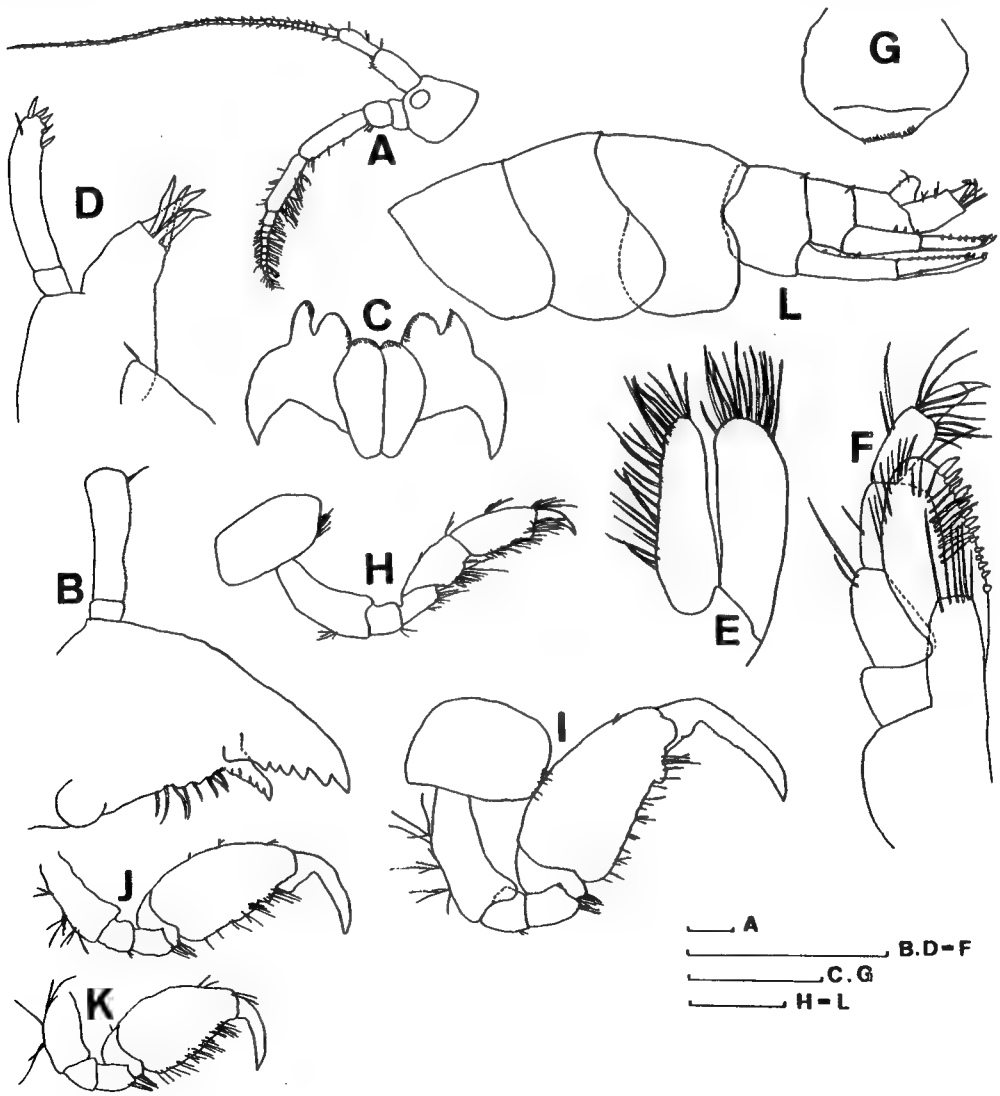

Fig. 13. *Peramphithoe tea* (Barnard, 1965), male, 11mm: A, anterior part; B, mandible; C, lower lip; D, maxilla 1; E, maxilla 2; F, maxilliped; G, upper lip; H-I, gnathopods 1,2; L, posterior part; male, 8.2mm: J, gnathopod 2; male, 6.9mm: K, gnathopod 2. Scale bars equal 1mm (A, H-L); 0.5mm (B-G).

M), by the oblique and convex palm of female gnathopod 2, and by sparse setation on the antenna 2, pereopods 3-5.

Peramphithoe orientalis (Dana, 1853) and *P. eoa* (Bruggen, 1907) (cited from Conlan and Bousfield, 1982; Gurjanova, 1938, 1951) are very similar to this new species, but these species can be readily distinguished from *P. namhaensis* by palmar shape of male gnathopod 2.

Etymology: The specific name *namhaensis* is based upon namhae (=southern sea of Korea) where the type locality is situated.

10. Peramphithoe tea (Barnard, 1965) (Figs. 13, 14)

Ampithoe tea Barnard, 1965 (pp. 30-34, figs. 19-21).

Peramphithoe tea: Conlan and Bousfield, 1982 (pp 65-66, fig. 14).

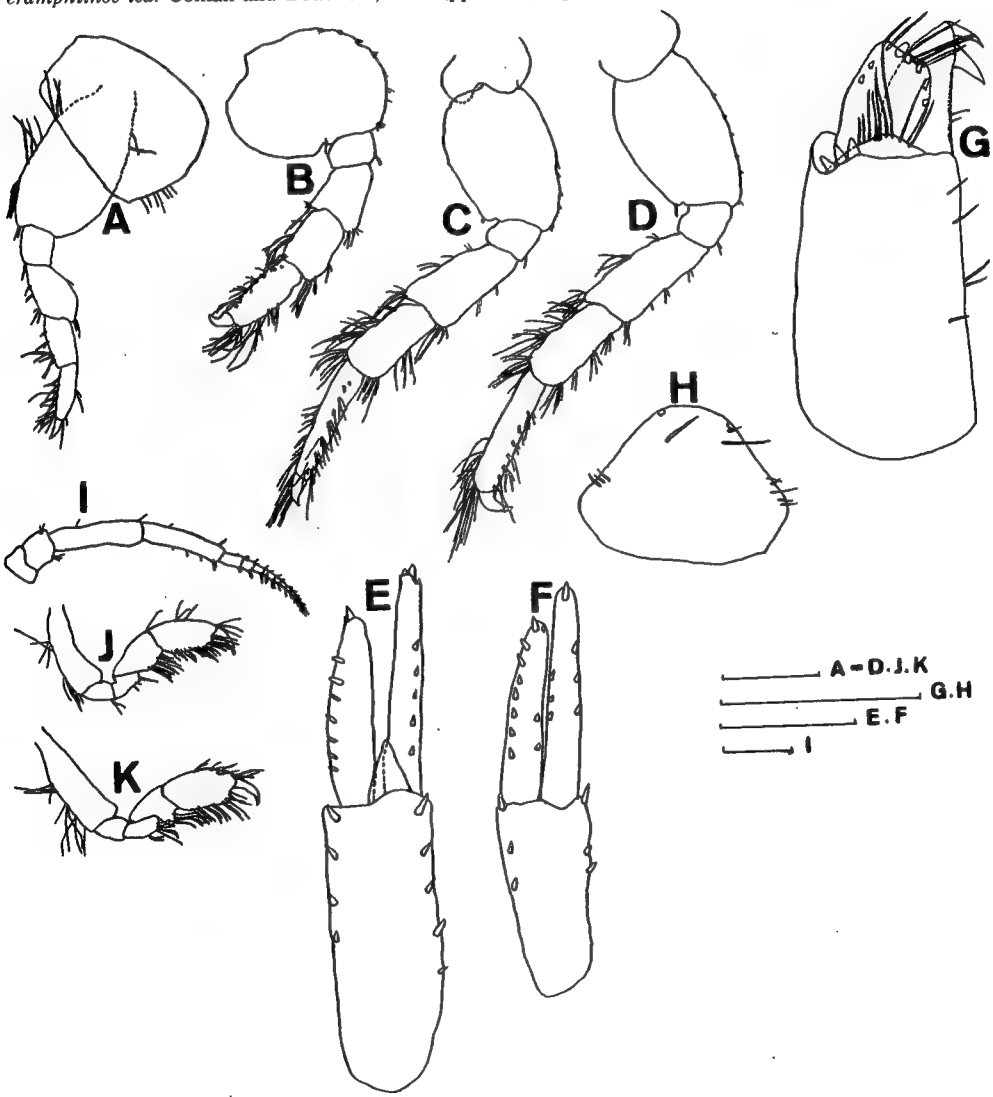

Fig. 14. *Peramphithoe tea* (Barnard, 1965), male, 11mm: A-D, pereopods 1,3,4,5; E-G, uropods 1-3; H, telson; female, 9mm: I, antenna 2; J-K, gnathopods 1,2. Scale bars equal 1mm (A-D, I-K); 0.5mm (E-H).

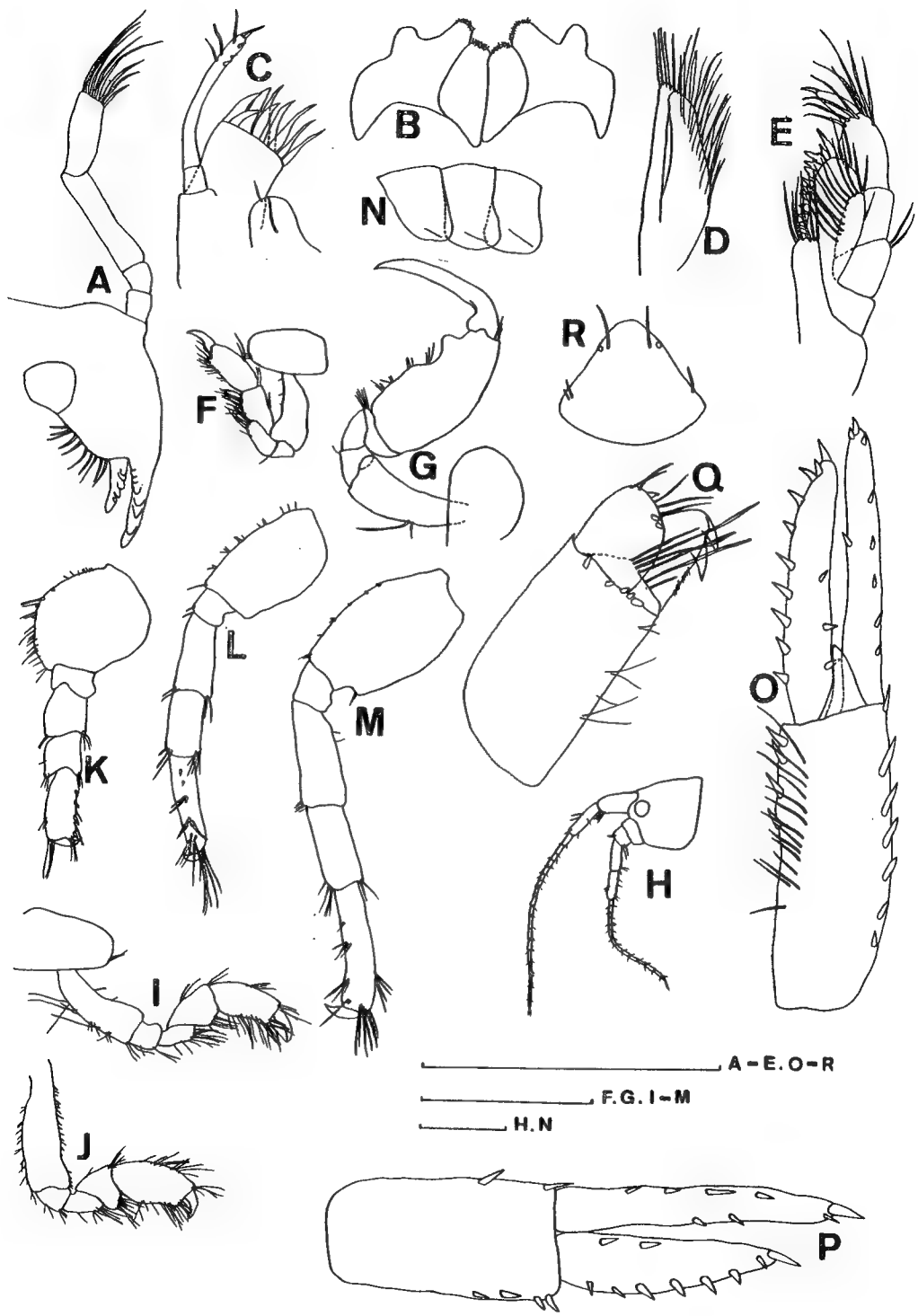

Fig. 15. *Peramphithoe orientalis* (Dana, 1853), male, 5.6mm: A, mandible; B, lower lip; C, maxilla 1; D, maxilla 2; E, maxilliped; F-G, gnathopods 1,2; female, 7mm: H, anterior part; I-J, gnathopods 1,2,; K-M, pereopods 3,4,5; N, pleonal epimeral 1-3; O-Q, uropods 1-3; R. telson. Scale bars equal 0.5mm (A-E, O-R); 1mm (F-N).

Material examined: 8♂♂, 16♀♀, 1 young, Kadŏkto I., May 23, 1978 (H.S. Kim).

Remarks: The present materials differ from Barnard's original description by the much storter segment 7 of male gnathopod 2 and by the antenna 2, pereopods 3-5 are not heavily setose. As, Conlan and Bousfield (1982) indicated, these differences are variation.

This is the first record of this species from the western Pacific.

Distribution: Korea, Alaska, British Columbia, California.

11. Peramphithoe orientalis (Dana, 1853) (Fig. 15)

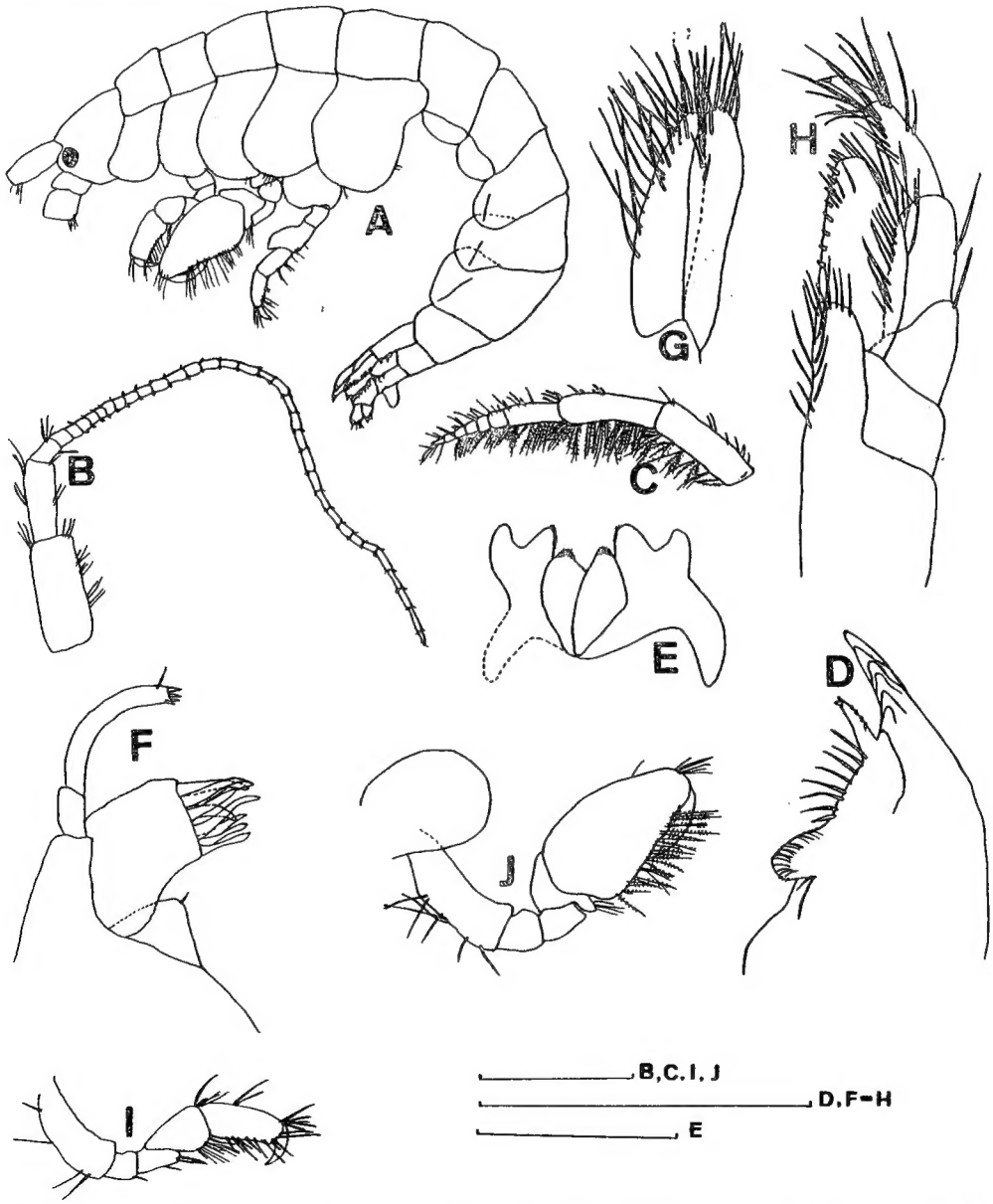

Fig. 16. *Sunamphithoe plumosa* Stephensen, 1944, male, 10.2mm: A, lateral view; B-C, antennae 1,2; D, mandible; E, lower lip; F, maxilla 1; G, maxilla 2; H, maxilliped; I-J, gnathopods 1,2. Scale bars equal 1mm (B,C,I,J); 0.5mm (D-H).

Amphithoe (*sic*) *orientalis* Dana, 1853 (pp. 937-939, p. 64, fig. 2).

Ampithoe orientals: Stebbing, 1906 (p. 641); Barnard, 1955 (pp. 26-28, fig. 14); 1970 (p. 50, fig. 17); Nagata, 1965 (p. 315, fig. 38c).

Peramphithoe orientalis: Conlan and Bousfield, 1982 (p. 60).

Material examined: 2♂♂, 2♀♀, Kukto I., Jul. 20, 1978 (H.S. Kim).

Distribution: Korea, Philippine, Hawaii, Japan.

Genus *Sunamphithoe* Bate, 1857

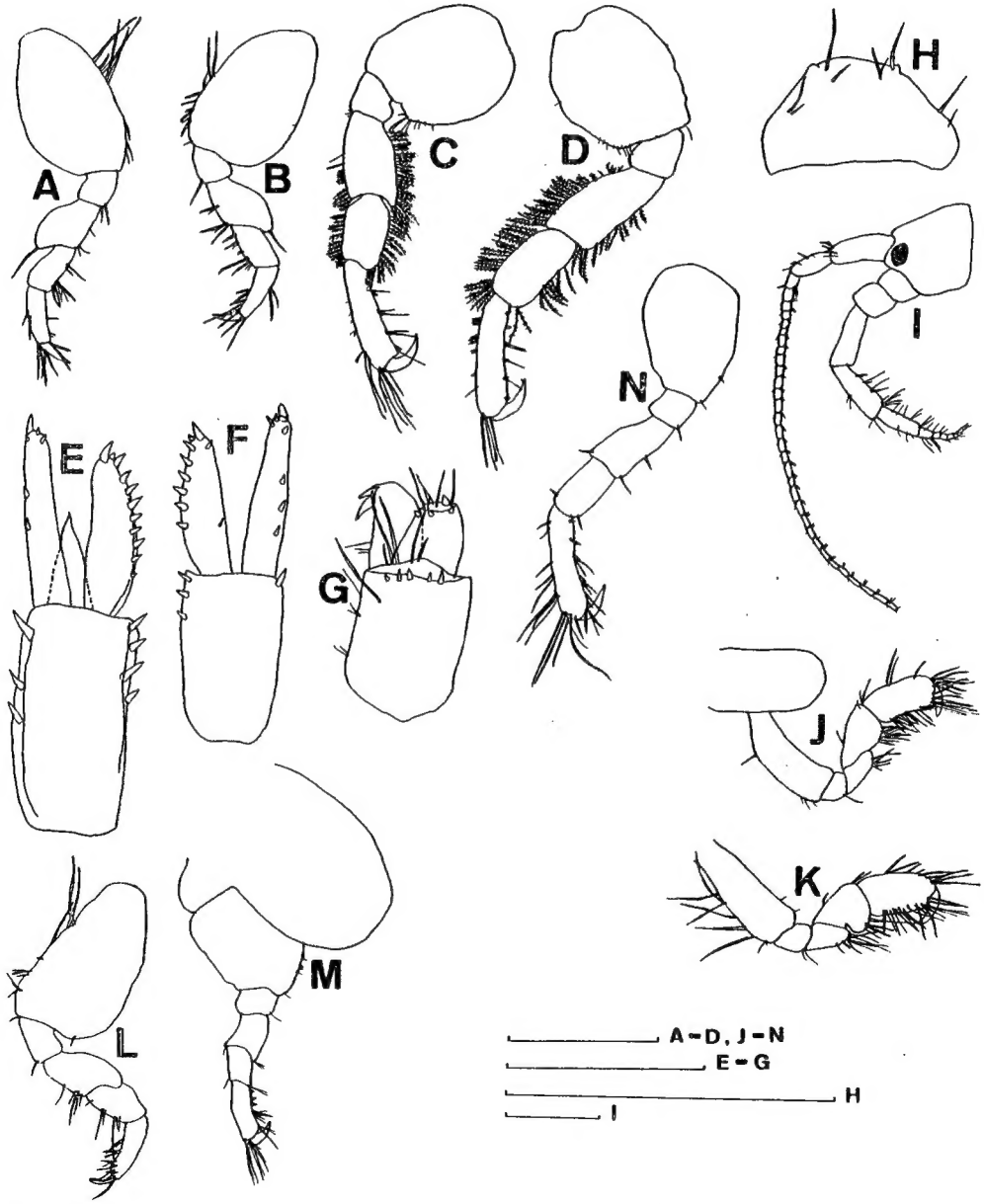

Fig. 17. *Sunamphithoe plumosa* Stephensen, 1944, male, 10.2mm: A-D, pereopods 1,2,4,5; E-G, uropods 1-3; H, telson ; female, 10mm: I, anterior part; J-K, gnathopods 1,2; L-N, pereopods 1,3,4. Scale bars equal 1mm (A-D, I-N); 0.5mm (E-H).

12. Sunamphithoe plumosa Stephensen, 1944 (Figs. 16, 17)

Sunamphithoe plumosa Stephensen, 1944 (pp. 83-87, figs. 32-33).

Material examined: 4♂♂, 9♀♀, Sangju-ri, Jun. 6, 1974 (K.S. Lee); 1♂, 2♀♀, Pangch'ukto I., Jul. 25, 1980 (K.S. Lee).

Distribution: Korea, Japan.

ABSTRACT

This study on the ampithoid gammarids in Korea was based on the materials collected in 32 localities, and deposited in the Department of Zoology, Seoul National University. Twelve species in three genera were identified and classified, of which following five species were new to science: *Ampithoe brevipalma Ampithoe koreana, Ampithoe youngsanensis, Peramphithoe baegryeongensis, Peramphithoe namhaensis. Ampithoe shimizuensis* Stephensen, 1944 was newly ranked as a subspecies — *Ampithoe valida shimizuensis. Ampithoe ramondi* Audouin, 1826, *Peramphithoe tea* (Barnard, 1965), *Peramphithoe orientalis* (Dana, 1853) and *Sunamphithoe plumosa* Stephensen, 1944 are new records for Korea.

REFERENCES

Alderman, A.L., 1936. Some new and little known amphipods of California. University of California Publication in Zoology, **41:** 53-74, figs 1-51.

Audouin, V., 1826. Explication sommaire des planches de crustacés de l'Egypte [sic] et de la Syrie, publiées par Jules — César Savigny, membre de l'Institut; offrant un exposé des caractères naturels des genres, avec la distinction des espèces. Descr. de l'Egypte, Hist. nat., **1:**77-98.

Barnard, J.L., 1954. Marine Amphipoda of Oregon. Oregon State Monographs, Studies on Zoology, 8:1-103, fig. 1, pls. 1-33.

Barnard, J.L., 1955. Gammaridean Amphipoda (Crustacea) in the collections of Bishop Museum. Bernice P. Bishop Mus. Bull., 215:1-46, figs. 1-20.

Barnard, J.L., 1965. Marine Amphipoda of the family Ampithoidae from Southern California. Proc. U.S. Nat. Mus., **118,** (3522):1-46, figs. 1-28.

Barnard, J.L., 1970. Sublittoral Gammaridea (Amphipoda) of the Hawaiian Islands. Smithsonian Contr. Zool., 34:1-286, figs. 1-180.

Barnard, J.L., 1971. Keys to the Hawaiian Marine Gammaridea, 0-30 Meters. Smithsonian Contr. Zool.,, 58:1-135, figs. 1-68.

Bate, C.S., 1858. On some new genera and species of Crustacea Amphipoda. Ann. Mag. Nat. Hist., ser. 3, **1:**361-362.

Bate, C.S., 1862. Catalogue of the specimens of amphipodous Crustacea in the collection of the British Museum. London, pp. 1-399, pls. 1, la, 2-58.

Bousfield, E.L., 1973. Shallow—water gammaridean Amphipoda of New England, Ithaca: Cornell University Press. pp. 312.

Chevreux, E. and L. Fage, 1925. Amphipodes. Faune de France, **9:** 1-488, figs. 1-438.

Conlan, K.E. and E.L. Bousfield, 1982. The amphipod superfamily Corophioidea in the Northeastern Pacific Region.

Family Ampithoidae: Systematics and distributional ecology. Natl. Mus. Nat. Sci. (Ottawa) Publ, Biol. Oceanor., 10:41-75.

Dana, J.D., 1853. Crustacea, Part II. U.S. Expl. Exped., **14:**689-1618, pls. 1-96.

Gurjanova, E., 1938. Amphipoda, Gammaroidea of Siaukhu Bay and Sudzukhe Bay (Japan Sea). Rep. Japan Sea Hydrobiol. Exped. of Zool. Inst. of the Acad. Sci. USSR, 1934, pt. 1, pp. 241-404, figs. 1-59. (In Russian, with English summary)

Gurjanova, E., 1951. Bokoplavy morej SSSR i sopredel'nykh vod (Amphipoda — Gammaridea). Akad, Nauk SSSR Opredel. po Faune SSSR, vol. 41, pp. 1-1029, figs. 1-705. (In Russian)

Harford, W.G.W., 1877. Description of three new species of sessile — eyed Crustacea, with remarks on *Ligia occidentials.* Proc. California Acad. Sci., **7:**116-117.

Kim, H.S. and C.B. Kim, 1987. Marine Gammaridean Amphipoda (Crustacea) of Cheju Island and its Adjacent Waters, Korea. Korean. J. Syst. Zool., **3**,1 :1-23.

Krapp — Schickel, G., 1978. Die gattung *Amphithoe* (Crustacea, Amphipoda) in Mittelmeer. Bijdr. Dierkd. **48**,1 :1-15.

Ledoyer, M., 1982. Crustacés Amphipodes Gammariens. Famillis des Acanthonotozomatidae à Gammaridae. Faune de Madagascar, **59**.1 : 1-598.

Nagata, K., 1960. Preliminary notes on benethic gammaridean Amphipoda from the *Zostera* region of Mihara Bay, Seto Inland Sea, Japan. Publ. Seto Mar. Biol. Lab., **8**,1:163-182, pls 13-17.

Nagata, K., 1965. Studies on marine gammaridean Amphipoda of the Seto Inland Sea. III. Publ. Seto Mar. Biol. Lab., **13**,4:291-326.

Paulmier, F.C., 1905. Higher Crustacea of New York city. New York State Mus. Bull., **91**(Zool., 12): 117-189, figs. 1-59.

Rabindranath, P., 1972. Marine Gammaridea (Crustacea: Amphipoda) from the Indian region. Family Ampithoidae. Mar, Biol., **14:**161-178.

Shoemaker, C.R., 1933. Two new genera and six new species of Amphipoda from Tortugas. Pap. Tortugas Lab., Carnegie Inst. Washington. **28:**245-256, figs. 1-8.

Shoemaker, C.R., 1938. Three new species of the amphipod genus *Ampithoe* from the west coast of America. Journ. Washington Acad. Sci., vol. 28, no. 1, pp. 15-25, figs. 1-4.

Stebbing, T.R.R., 1906. Amphipoda, 1: Gammaridea. Das Tierreich, **21:**1-806, figs. 1-127.

Stephensen, K., 1944. Some Japanese amphipods. Vidensk. Medd. fra Dansk Naturh. Foren., **108:**25-88, figs. 1-33.

Walker, A.O., 1904. Report on the Amphipoda collected by professor Herdman, at Ceylon, in 1902. Supplementary Report to the Government of Ceylon on the Pearl Oyster Fisheries of the Gulf of Manaar 1904, **17:**229-330, pls. 1-8.

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